CONTENTS OF SUPPLEMENT.

PERSONAL 1
Obituary 1
ENGINEERING SOCIETIES 1
Coming Technical Meetings 1
NEW PUBLICATIONS 2
Trade Publications 2
CONSTRUCTION NEWS:
Condensed List of Contracts Pending 2
Railways 3
Streets and Electric Railways 3
Electric Light and Power 4
Bridges 4
Buildings 5
Water-Works 5
Irrigation 6
Sewerage 6
Garbage Disposal and Street Cleaning 6
Streets and Roads 6
Manufacturing Plants 6
Gas Plants 6
Miscellaneous Contracts 7
Contract Prices 7-8
INDUSTRIAL NOTES 7-8

PERSONAL.

Mr. Clarence W. Parsons has been elected City Engineer of Louisville, Ky.

Mr. Edwin C. Brooks has been appointed Superintendent of the Cambridge (Mass.) water-works.

Mr. Wesley Wirt Warren, civil engineer, of Spokane, Wash., was married Dec. 23 to Miss Mary Josephine Gove, of that city.

Mr. Henry W. Hodge, M. Am. Soc. C. E., of New York city, was married Dec. 14, 1897, to Miss Sarah Cunningham Mills, of Savannah, Ga.

Col. W. B. Mellish has been appointed a member of the Water-Works Commission of Cincinnati, O., to succeed Dr. T. W. Graydon, resigned.

Mr. F. G. Ross, civil engineer, of the Apollo Iron & Steel Co., Pittsburg, Pa., was married Dec. 29 to Miss Winona Holton, Steubenville, Pa.

Mr. Harvey Harris has been appointed Manager and Superintendent of the Bismarck Water Co., Bismarck, N. Dak., to succeed Mr. C. B. Little.

Mr. J. A. Clark has been appointed Engineer of Maintenance of Way of the Cincinnati, Portsmouth & Virginia R. R., with headquarters at Cincinnati, O.

Mr. Stevenson Towle, M. Am. Soc. C. E., has been appointed, for four years, Consulting Engineer to the Board of Public Improvements of Greater New York.

Mr. Nelson Peter Lewis, M. Am. Soc. C. E., Engineer of Street Construction and Maintenance of Brooklyn, N. Y., has been elected President of the Brooklyn Engineers' Club.

Col. Harry C. Trexler, President of the Trexler-Terrell Lumber Co., of Pennsylvania, has been elected President of the Lehigh Portland Cement Co., with works at Ormrods, Pa.

Mr. Paul Sourin King, M. Am. Soc. C. E., of New York city, sailed Dec. 30 on the steamship "Santiago" for Cuba to examine the railways and other interests for New York capitalists.

Messrs. Charles Granger, F. S. Jefferson and Thos. J. Satterwhite have been appointed by Mayor Weaver as members of the Board of Public Works of Louisville, Ky., for four years.

Mr. L. R. Lemoine, formerly with Messrs. R. D. Wood & Co., Philadelphia, Pa., has been elected Vice-President and General Manager of the McNeal Pipe & Foundry Co., Burlington, N. J.

Mr. Halbert Power-Gillette, Assistant Engineer of the New York State Canals, at Elmira, N. Y., has been ordered to Rochester, N. Y., his work at the former place having been completed.

Mr. R. Maitland Roy, who has been Manager in charge of the Highway Bridge Department of the Central Bridge & Engineering Co., of Peterborough, Ont., has accepted a similar position with the Hamilton Bridge Works Co., Hamilton, Ont.

Prof. Willard B. Rising, Dean of the College of Chemistry, University of California, Berkeley, Cal., has been appointed a member of the American Committee for the Third International Congress of Applied Chemistry, to be held in Vienna, Austria, in July, 1898.

Mr. Wilbur S. Sample has been engaged as Chief Engineer of the Brown-Ketcham Iron Works, of Indianapolis, Ind. He has been associated for a number of years with the Sneed & Company's Iron Works, Louisville, Ky., and has been Chief Engineer for some time.

Mr. Wm. H. Burnham, who for a number of years has been the Manager of the Railway and Export Department of the Page Woven Wire Fence Co., Adrian, Mich., has resigned his position to become the General Manager of the Lamb Wire Fence Co., of that city.

Mr. H. R. McCullough, General Traffic Manager of the Chicago & Northwestern Ry., with offices at Chicago, Ill., has been appointed Third Vice-President, to succeed Mr. Horace G. Burt, whose acceptance of the Presidency of the Union Pacific system was noted last week.

Mr. John A. Bensel, M. Am. Soc. C. E., lately of the contracting firm of Steers & Bensel, has been appointed Chief Engineer of the Dock Department of New York, in the place of George S. Greene, Jr., M. Am. Soc. C. E., who had held that position for the last 23 years.

Mr. George Washington Green, contractor, of New Rochelle, N. Y., was injured, probably fatally, Dec. 30 by the explosion of a frozen stick of dynamite which he was thawing out over a fire. He is a negro, and is said to be the wealthiest of his race in Westchester County.

The New Croton Aqueduct Commissioners, under the new administration for Greater New York, are: Messrs. Peter G. Dooling, Wm. H. Ten Eyck, Maurice G. Power and Charles H. Murray. Mr. Power succeeded the late Gen. Duane, and was the only member of the old Aqueduct Board reappointed.

Mr. F. B. Harrington, son of Mr. F. A. Harrington, Superintendent of the Mohawk Division of the New York Central & Hudson River R. R., office at Albany, N. Y., has been appointed Inspector of Signals of that division, to succeed Mr. Clifford Lewis, who has been appointed City Surveyor of Utica, N. Y.

Mr. John F. Wallace, M. Am. Soc. C. E., who resigned his position as Chief Engineer of the Illinois Central R. R., some months ago, has returned to the service of that road as Assistant to the Second Vice-President (Mr. J. T. Harahan). The acting chief engineer and the consulting engineer will report to Mr. Wallace.

Mr. Charles C. Schneider, M. Am. Soc. C. E., Chief Engineer of the Bridge and Construction Department of the Pencoyd Iron Works, Pencoyd, Pa., arrived home Jan. 2 after a two months' trip abroad. In anticipation of his return his office was beautifully decorated with plants and flowers by the engineers and draftsmen of the works.

Mr. Edward Clapp Shankland, M. Am. Soc. C. E., M. Inst. C. E., of the firm of D. H. Burnham & Co., of Chicago, Ill., has been honored by the Institution of Civil Engineers of Great Britain by the award of the Telford medal and premium for his paper on "Steel Skeleton Construction in Chicago," read before the Institute Dec. 22, 1896.

Capt. Watson Wellman Rich, M. Am. Soc. C. E., Chief Engineer of the Minneapolis, St. Paul & Sault Ste. Marie Ry., of Minneapolis, Minn., is reported to have been appointed Director General of Railways in China. He has spent the greater part of the last year in that country, and has made a survey for a railway from Hankow to Pekin for the Chinese Government.

Mr. Lyman E. Cooley, who has been prominently connected with the Chicago Drainage Canal since the early days of the project, and who only recently resigned his position as Consulting Engineer to the Sanitary District of Chicago, has sailed for Nicaragua, Central America, in order to look over the route of the proposed Nicaragua ship canal, in behalf of an American syndicate.

Mr. Curtiss Millard, Jun. Am. Soc. C. E., General Manager and Chief Engineer of the St. Louis, Chicago & St. Paul Ry., with headquarters at Springfield, Ill., has been appointed Superintendent of the Chicago, Peoria & St. Louis R. R., to succeed Mr. H. S. Rearden, resigned. Mr. Millard will continue to act as Superintendent of the former road, his office remaining at the same place.

Prof. Alexander Melville Bell, the Scotch scientist and the father of Mr. A. Graham Bell, inventor of the Bell telephone, was married Jan. 1 in New York city to Mrs. H. G. Shibley, of Harrowsmith, Ont. The ceremony was performed by the Rev. Dr. R. A. Paterson, of Binghamton, N. Y., who was a pupil of Prof. Bell while the latter was a professor in Edinburgh University, Scotland. Prof. Bell is 78 and Mrs. Bell 53 years of age.

Mr. Bernard L. Green, of the Osborn Co., Cleveland, O., civil engineers, has just returned to that city after an absence of eight months in Europe, where he has been investigating engineering works and methods. He is especially interested in the manufacture and inspection of cements, and in masonry construction, and a considerable portion of his time has been devoted to the examination of the cement industry and the qualities of European cements.

Dr. Noah Fields Drake, a graduate student in geology at the Leland Stanford, Jr., University, California, has accepted the position of Professor of Mining, Engineering and Geology in the Tien-Tsin University, China. He graduated from the Arkansas Industrial University in 1888 as a civil engineer, and for four years was connected with the State geological surveys of Texas and Arkansas, besides being for a time a geologist and surveyor on the U. S. Geological Survey.

Mayor Robert A. Van Wyck, of New York city, who, Jan. 1, entered upon his duties as the first Mayor of the consolidated city, now including Brooklyn and Long Island City, Staten Island and part of Queens County, has made the following appointments among many others:

Board of Public Improvements.—Mr. Maurice F. Holahan, President; Mr. William Dalton, Commissioner of Water Supply; Mr. James P. Keating, Commissioner of Highways, and Mr. James McCartney, Commissioner of Street Cleaning. Mr. James Kane, Commissioner of Sewers; Mr. Henry S. Kearny, Commissioner of Public Buildings, Lighting and Supplies; Mr. John L. Shea, Commissioner of Bridges. Department of Parks.—Mr. George C. Clausen, President and Commissioner in Boroughs of Manhattan and Richmond; Mr. George V. Brower, Commissioner in Boroughs of Brooklyn and Queens, and Mr. August Moebus, Commissioner in Borough of the Bronx. Department of Buildings.— Mr. Thomas J. Brady, President and Commissioner in Boroughs of Manhattan and the Bronx; Mr. Daniel Ryan, Commissioner in Borough of Brooklyn, and Mr. Daniel Campbell, Commissioner in Boroughs of Richmond and Queens. Mr. John J. Scannell, Fire Commissioner. Commissioners of Docks and Ferries.—Messrs. J. Sergeant Cram, Peter F. Meyer and Charles F. Murphy. Civil Service Commissioners.—Messrs. Charles H. Knox, Robert E. Deyo and William N. Dyckman.

OBITUARY.

Mr. James L. Mitchell, civil engineer, of Kansas City, Mo., died Dec. 25, aged 52.

Mr. Edward Benson, Superintendent of the Sewer Department of Jersey City, N. J., died Jan. 2, aged 56.

Mr. Charles E. Deal, contractor and builder, of Philadelphia, Pa., died Jan. 1, aged 81.

Mr. William L. Elseffer, civil engineer, died in New York city, Jan. 2, aged 71. He was born in Red Hook, N. Y., and was engaged as an Assistant Engineer on the surveys for the Hudson River R. R. He was also engaged in the development of Central Park, New York city, and in draining the meadows between Jersey City and Newark, N. J.

Mr. Gouverneur Morris, M. Am. Soc. C. E., of Detroit, Mich., died Dec. 30. He was a great-grandson of Robert Morris, one of the signers of the Declaration of Independence, and was born in Pottsville, Pa., Nov. 5, 1847. He was educated in the Polytechnic College of Pennsylvania, and from 1867 to 1874 was engaged in the construction of railways in various parts of the United States. Later he became interested in coal mining operations and made an examination of the coal deposits of the Yellowstone Valley for the Northern Pacific Ry. in 1880. He was connected with the construction of the New Croton Aqueduct, and afterwards was engaged in coal mining operations.

Mr. James Platt, M. Inst. M. E., M. Inst. C. E., head of the firm of Fielding & Platt, Limited, hydraulic machine tool builders, of Gloucester, England, died Dec. 29. He was born in Manchester, England, Feb. 4, 1834, and was educated and served his apprenticeship in Sowerby Bridge, Yorkshire, where his father, Mr. John Platt, was the Engineer and Manager for the (at that time) celebrated tool builders, Messrs. Francis Berry & Sons. When about 24 years of age he left their works and became Manager of a general engineering works in Gloucester, and about this time designed and built several blast furnace plants, some of the first in England to be equipped with the modern hot blast stoves. He also put in a number of large pumping plants in the Forest of Dean. In 1866 he founded the firm of Felding & Platt, and worked this business up until it now employs over 450 men. In 1873, with Mr. R. H. Tweddell, he took out the first patent on a hydraulic riveting machine. This was followed by many more, and since that date he has been more nearly identified with the development of hydraulic machine tools than any one else. It was he who saw the need of making riveting and flanging machines of heavy power, to enable boilers to be built to stand the heavy pressures then coming into use. It was this foresight which enabled his firm to equip three-fourths of the marine and locomotive shops in England and on the Continent with their hydraulic systems. His most important plant in this country is that of the hydraulic tools at the Juniata shop of the Pennsylvania R. R., at Altoona, Pa. The last large piece of work he conceived and designed was the building of the gigantic gantry, superstructure and riveting plant for Harlan & Wolff, of Belfast, Ireland, now being used for the building of the large White Star Line steamship "Oceanic." With this plant practically every rivet in the ship will be put in by hydraulic power. Mr. Platt always took an active part in the work of the English engineering institutions, and was a regular attendant at their meetings. He visited this country with the Iron & Steel Institute when it made its memorable trip. He took an active interest in local politics, being a Liberal and a follower of Mr. Gladstone. He was Mayor of the ancient city of Gloucester for two terms; was for 29 years a Town Councillor and Alderman; was a Justice of Peace, and also held numerous other local offices. Few men in the English engineering world will be so much missed, as with his tactful and genial way he made many friends. Mr. Platt was a member of the Council of the Institution of Mechanical Engineers, a member of the Institution of Civil Engineers and also of the Iron and Steel Institute. He was Vice-Chairman of the Board of Directors of the Gloucester Railway Carriage & Wagon Co., the largest and best equipped car building establishment in England. Mr. Platt leaves a widow, five sons and a daughter. His eldest son, Mr. John Platt, M. Am. Soc. M. E., is a member of the firm of Thorpe & Platt, of New York city.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

TECHNICAL SOCIETY OF THE PACIFIC COAST.
Jan. 7. Secy., O. Von Geldern, 819 Market St., San Francisco, Cal.

CHICAGO ELECTRICAL ASSOCIATION.
Jan. 7. "Electrical Shop Transmission," H. G. Dimmick, Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.

AMERICAN SOCIETY OF NAVAL ENGINEERS.
Jan. 7-8. Annual meeting, Washington, D. C. Secy., Engineer F. C. Beig, Navy Dept., Washington, D. C.

INDIANAPOLIS ENGINEERING CLUB.
Jan. 8. Secy., Edson F. Folsom, Indianapolis, Ind.

MONTANA SOCIETY OF ENGINEERS.
Jan. 8. Annual meeting. Secy., Albert S. Hovey, Helena, Mont.

THE ENGINEERS' CLUB OF PHILADELPHIA.
Jan. 8. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.

ENGINEERS' CLUB OF KANSAS CITY.
Jan. 10. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.

DENVER SOCIETY OF CIVIL ENGINEERS.
Jan. 11. Secy., Walter Pearl, 36 Jacobson Bldg., Denver, Col.

NORTHWESTERN TRACK AND BRIDGE ASSOCIATION.
Jan. 11. Secy., T. A. Fogue, Soo Line, Minneapolis, Minn.

RAILWAY SIGNALING CLUB.
Jan. 11. Secy., Earl M. Seitz, Signal Engineer, C. & N. W. Ry., Chicago, Ill.

CONNECTICUT CIVIL ENGINEERS' AND SURVEYORS' ASSOCIATION.
Jan. 11. Annual meeting, Hartford, Conn. Secy., G. K. Crandall, New London, Conn.

CIVIL ENGINEERS' CLUB OF CLEVELAND.
Jan. 11. Secy. pro tem., Wm. H. Searles, Case Library Bldg., Cleveland, O.

NEW ENGLAND RAILROAD CLUB.
Jan. 12. Secy., Edward L. Jones, P. O. Box 1158, Boston, Mass.

FRANKLIN INSTITUTE.
Jan 12. "The Electrolytic Production of Lead from Galena," Pedro G. Salom. Jan. 14. "Transportation and Wealth," Edw. P. North; Jan. 11. "Line and Return Circuit Construction of Electric Railways," David Pepper, Jr. Secy., Wm. H. Wahl, 15 S. Seventh St., Philadelphia, Pa.

ENGINEERING ASSOCIATION OF THE SOUTH.
Jan. 13. Secy., C. B. Wilson, Nashville, Tenn.

CENTRAL RAILWAY CLUB.
Jan. 14. Secy., H. D. Vought, "Buffalo Courier," Buffalo, N. Y.

ST. LOUIS RAILWAY CLUB.
Jan. 14. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.

ENGINEERS' CLUB OF COLUMBUS.
Jan. 15. Secy., M. S. Hopkins, 14½ N. High St., Columbus, O.

TECHNICAL CLUB OF OMAHA
Jan. 17. Secy., J. Harry Lawrie, Omaha, Neb.

ENGINEERS' CLUB OF MINNEAPOLIS.
Jan. 17. Secy., Elbert Nexsen, 1620 S. E. 4th St., Minneapolis, Minn.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.
Jan. 18. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.

WESTERN RAILWAY CLUB.
Jan. 18. Secy., F. M. Whyte, 225 Dearborn St., Chicago, Ill.

IOWA CIVIL ENGINEERS' AND SURVEYORS' SOCIETY.
VEYORS.
Jan. 19. Annual meeting, Cedar Rapids, Mich. Secy., Seth Dean, Glenwood, Ia.

BOSTON SOCIETY OF CIVIL ENGINEERS.
Jan. 19. Secy., S. E. Tinkham, City Hall, Boston, Mass.

WESTERN FOUNDRYMEN'S ASSOCIATION.
Jan. 19. Secy., A. Sorge, Jr., 1020 Monadnock Block, Chicago, Ill.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
Jan. 19. Secy., C. W. Hunt, 220 West 57th St., New York city.

ENGINEERS' CLUB OF ST. LOUIS.
Jan. 19. Secy., Richard McCulloch, St. Louis, Mo.

CANADIAN SOCIETY OF CIVIL ENGINEERS.
Jan. 20. Secy., C. H. McLeod, 112 Mansfield St., Montreal, Canada.

ENGINEERS' AND ARCHITECTS' ASSOCIATION OF SOUTHERN CALIFORNIA.
Jan. 19. Secy., Frank H. Olmsted, Los Angeles, Cal.

NORTHWESTERN ELECTRICAL ASSOCIATION.
Jan. 19. Annual meeting, Milwaukee, Wis. Secy., T. R. Mercein, Milwaukee, Wis.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
Jan. 20. Secy., F. A. Charpiot, Macon, Ga.

ENGINEERS' CLUB OF CINCINNATI.
Jan. 20. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.

NEW YORK RAILROAD CLUB.
Jan. 20. Secy., W. W. Wheatly, 168 Montague St., Brooklyn, N. Y.

NATIONAL ASSOCIATION OF MANUFACTURERS OF THE UNITED STATES.
Jan. 25-27. Annual convention, New York city. Secy., Charles E. Locke, Philadelphia, Pa.

ILLINOIS SOCIETY OF ENGINEERS AND SURVEYORS.
Jan. 25 to 28. Annual meeting, at Peoria, Ill. Secy., Jacob A. Harman, Peoria, Ill.

THE WEST VIRGINIA SOCIETY OF CIVIL ENGINEERS AND ARCHITECTS.
Jan. 26. Annual meeting, Morgantown, W. Va. Secy., Wm. Steenbergen, Point Pleasant, W. Va.

AMERICAN FOUNDRYMEN'S ASSOCIATION.
Jan. 26. Annual meeting, New York city. Secy., John A. Penton, Buhl Block, Detroit, Mich.

BROOKLYN ENGINEERS' CLUB.—It is announced that the informal Thursday night talks will be resumed on Jan. 13.

MICHIGAN ENGINEERING SOCIETY.—This Society met at the Hotel Harrington, Port Huron, Mich., Dec. 28. Thirty-five members were present and listened to the address of welcome by Mayor Boynton. Among those reading papers were: F. F. Rodgers, G. S. Williams, G. L. Wells, J. J. Hubbell, E. M. Muencher and Dorr Skeels.

NORTHWESTERN ELECTRICAL ASSOCIATION.—The 6th annual convention of this Association will be held at Milwaukee, Wis., beginning Jan. 19. The program includes the following papers: "Practice and Theory," "Present Efficiency of Incandescent Lamps," "Physical and Chemical Properties of Volatile Oils in Boilers," "Notes on Municipal Ownership," "Electric Lighting for Profit," "Long Distance Transmission and Transformers."

ENGINEERS' CLUB OF PHILADELPHIA.—The meeting of Dec. 18 was devoted to the report of the committee appointed to investigate the possibilities of providing better quarters for the Club. After presenting and discussing the several propositions of the committee recommending the purchase of two adjoining properties, the occupancy of one and the rental of the other until the membership and revenue warranted the occupation of both by the Club, considerable discussion followed, without any definite result.

CONNECTICUT CIVIL ENGINEERS' AND SURVEYORS' ASSOCIATION.—The 14th annual convention of this Association will be held in the City Hall Bldg., Hartford, Conn., Jan. 11. Mr. J. Wilkes, New Rochelle, N. Y., will read a paper on "Chemical Precipitation Works, at New Rochelle, N. Y.," and T. H. McKenzie one entitled "Additional Water Supply for New Britain, Conn." Other papers will be read, the subjects of which will be announced at the meeting.

THE CIVIL ENGINEERS' CLUB OF CLEVELAND.—At a special meeting held Dec. 28 a paper on "Construction of Ships for Service on the Great Lakes" was read by Richard L. Newman. The paper was illustrated by numerous drawings and charts, and treated of the methods by which modern ships are given greater strength in cross-section without increasing the weight or depth, thus permitting the design of vessels of much greater length and tonnage than were thought possible a few years ago. The proper location of the machinery as affecting the strength of the hull was considered.

Wm. H. Searles, Secy. pro tem.

AMERICAN SOCIETY OF NAVAL ENGINEERS.—At the annual meeting of this Society, to be held in Washington, D. C., beginning Jan. 7, the following papers will be presented: The prize paper of this year, "Steam Consumption of the Main and Auxiliary Machinery on the United States Steamship 'Minneapolis,'" to the author of which the medal will be awarded; "American Steam Yachts," Irving Cox, New York; "Trials of the Niclausse Safety Water-Tube Boiler," Jay M. Whitham, Philadelphia; "The Submarine Boat Plunger," J. Alvah Scott, Baltimore; "Boiler Testing with Various Fuels," David P. Jones, Chicago; "Entropy and Temperature Entropy Diagrams," Professor W. F. Durand, Ithaca, N. Y.; "Speed of Construction a Vital Factor in Naval Strength," Frank B. King, Washington, D. C.; "The Status of Boards on Changes as Usually Constituted Under the Contracts for the Construction of Our New Navy," W. W. Varney, Baltimore; "Propulsive Power," James N. Warrington, Chicago; "The Diesel-Motor," E. K. Meier, St. Louis; "Water-Tube Boilers," Darwin Almy, Providence, R. I.

NEW PUBLICATIONS.

ELECTRIC LIGHTING FOR RAILWAY CARS.—American Railway Electric Light Co., New York. Paper; 8¾ × 6¾ ins.; pp. 19.

This pamphlet describes a system of car lighting by electricity generated by means of a dynamo driven by gearing from one of the truck axles, a storage battery supplying the current when the car is at rest. This system was described in our issue of May 13, 1897. The pamphlet also describes a system of lighting houses by means of a dynamo driven by a windmill, in connection with storage batteries to provide a uniform current.

WATER-WORKS REPORTS.—Annual reports, mostly for 1896 or 1896-7, have been received as follows, the names given being those of Superintendents, unless otherwise stated:

Concord, N. H., V. C. Hastings. Dover, N. H., Willard T. Sanborn. Manchester, N. H., Chas. K. Walker. Meredith, N. H., George F. Sanborn, Commissioner. Montpelier, Vt., Joel Foster. Metropolitan Water Board (Boston, Mass., and vicinity), F. P. Stearns, Chief Engineer. Billerica, Mass., F. S. Clark, Chairman. Brookline, Mass., F. F. Forbes. Cambridge, Mass., Walter H. Harding, Registrar. Fall River, Mass., P. Kieran. Fitchburg, Mass., Thos. C. Lovell. Haverhill, Mass., Henry W. Rogers. Holden, Mass., Chas. E. Parker, Chairman. Lawrence, Mass., A. H. Salisbury. Longmeadow, Mass., Wm. B. Medlicott, Secretary. Lowell, Mass., Robt. J. Thomas. Lynn, Mass., John C. Haskell. Methuen, Mass., J. Alfred Welch. Middleboro, Mass., Jos. E. Beals. New Bedford, Mass., R. C. P. Coggeshall. Northampton, Mass., Luther C. Wright. Springfield, Mass., J. C. Hancock. Taunton, Mass., Geo. F. Chace. Waltham, Mass., L. Brown. Wellesley, Mass., F. L. Fuller, Chairman. Pawtucket, R. I., Geo. A. Carpenter, City Engineer. Providence, R. I., Herbert J. Shedd, City Engineer. Woonsocket, R. I., Byron I. Cook. Meriden, Conn., E. B. Moss, City Engineer. Middletown, Conn., J. C. Broatch. Naugatuck, Conn., E. C. Barnum. New Britain, Conn., D. A. Harris. Norwich, Conn., R. S. Bartlett. Albany, N. Y., Special Report on Filtration, with Report of Allen Hazen, Consulting Engineer; Geo. I. Bailey. Binghamton, N. Y., D. Fetner. Buffalo, N. Y., Edw. B. Guthrie, Chief Engineer Department Public Works. Gloversville, N. Y., J. B. Tuckerman. Little Falls, N. Y., S. E. Babcock, Chief Engineer Board Public Works. Newburgh, N. Y., Curtis Stanton. Poughkeepsie, N. Y., Chas. E. Fowler. Rochester, N. Y., Emil Kuichling, Chief Engineer. Schenectady, N. Y., Geo. T. Ingersoll. Syracuse, N. Y., Wm. R. Hill. Troy, N. Y., Geo. B. Fales, Clerk; also Reports on Additional Supply by Wm. G. Raymond, Dr. Wm. P. Mason and Elnathan Sweet. Yonkers, N. Y., William H. Doty, President. Bridgeton, N. J., Timothy Woodruff. Deckertown, N. J., S. F. Quince, Secretary. Newark, N. J., M. R. Sherrerd, Engineer. Trenton, N. J., Report on Filtration by Chas. A. Hague. Bradford, Pa., S. D. Heffner. Erie, Pa., Wm. Himrod, Secretary. Harrisburg, Pa., Edmund Mather, President. Philadelphia, Pa., John C. Trautwine, Jr., Chief Engineer; also Report on Water Supply and Filtration, Thos. M. Thompson, Director Department Public Works. Reading, Pa., Emil Neubling. Wilmington, Del., Jos. A. Bond, Chief Engineer. Annapolis, Md., Wm. F. Williams. Cumberland, Md., Report on Improving the Supply, C. Jas. Orrick, Secretary; Churchill Hungerford, Engineer for the investigation. Washington, D. C., Major Chas. F. Powell, U. S. A., Engineer Commissioner, District of Columbia. Norfolk, Va., Jas. Riddle. Richmond, Va., Chas. E. Bolling. Charlotte, N. C., Report on Available Sources of Water Supply, J. L. Ludlow. Jacksonville, Fla., R. N. Ellis. Cincinnati, O., Willis P. Tharp. Cleveland, O., M. W. Kingsley. Dayton, O., Chas. E. Rome, Secretary. Oberlin, O., W. B. Gerrish, City Engineer. Richmond, Ind., W. M. Whitten, Civil Engineer. Bay City, Mich., E. L. Dunbar. Detroit, Mich., L. N. Case. Grand Rapids, Mich., Fred. A. Twamley, Secretary. Rockford, Ill., C. C. Stowell. Milwaukee, Wis., Geo. H. Benzenberg, City Engineer. Markato, Minn., M. B. Haynes. St. Paul, Minn., John Caulfield, Secretary. Kansas City, Mo., D. W. Longwell. Salt Lake City, Utah, Frank C. Kelsey, City Engineer. St. John, N. B., Wm. Murdoch. Halifax, N. S., W. W. Doane, City Engineer. Toronto, Ont., E. H. Keating, City Engineer.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3 1-2 x 6 ins.; 6 x 9 ins., and 9 x 12 ins.)

PAPER PULLEYS.—The Rockwood Mfg. Co., Indianapolis, Ind. Pamph.; 7 × 4½ ins.; pp. 32.

This pamphlet contains a statement of the relative advantages of paper pulleys, as compared with wooden and iron pulleys, and a price list of various sizes.

MACHINE TOOLS.—The Hilles & Jones Co., Wilmington, Del. Catalogue O; 9 × 12 ins.; pp. 44.

This catalogue consists chiefly of half-tone cuts of recent designs of tools for punching, shearing, bending, plate planing, etc. The tools are of the most massive construction.

SHAKING GRATES.—Kutztown Foundry & Machine Co., Kutztown, Pa. Pamph.; 3½ × 6¼ ins.; pp. 24.

This little pamphlet describes the Rose Patent Grate, which has been on the market for some years. The company has an office in the Fidelity Building, Broad St., above Arch, Philadelphia.

STEAM ENGINES, BOILERS, ETC.—The J. B. Allfree Mfg. Co., Indianapolis, Ind. Pamph.; 5¾ × 3½ ins.; pp. 24.

This catalogue illustrates a line of high-speed engines, both side and center crank, simple and compound, designed especially for electric lighting; also an internally-fired horizontal tubular boiler, steam separators, feed water heaters, condensers, cooling towers, etc. The Atkins & Wendover Engineering Co., 39 Cortlandt St., New York, and H. M. Sciple & Co., 3d and Arch Sts., Philadelphia, are Eastern agents.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Jan. 6.	Steel truss bridge,	Sherbrooke, Que.	Dec. 30
	Advertised, Engineering News, Dec. 23.		
Jan. 6.	Grading, etc.,	Santa Monica, Cal.	Dec. 30
Jan. 6.	Road,	Santa Rosa, Cal.	Dec. 30
Jan. 6.	Sewers,	Erie, Pa.	Jan. 6
Jan. 6.	Steam fire engine,	Scranton, Pa.	Jan. 6
Jan. 7.	Heating and ventilating,	Pueblo, Colo.	Dec. 23
Jan. 7.	Grading and paving,	St. Louis, Mo.	Dec. 23
Jan. 7.	Steam heating, etc.,	Pueblo, Colo.	Dec. 23
Jan. 8.	Sewers,	Mount Vernon, O.	Dec. 23
Jan. 8.	Filtration bed, reservoir,	Little Falls, N. Y.	Dec. 16
Jan. 8.	Plans for water-works,	Belper, England	Nov. 18
Jan. 8.	Water-works, sewers,	Chamberlain, S. Dak.	Dec. 23
Jan. 8.	Boiler house,	West Newton, Mass.	Jan. 6
Jan. 10.	Colonnades,	Omaha, Neb.	Jan. 6
Jan. 10.	Macadamizing, etc.,	Englewood, N. J.	Jan. 6
Jan. 10.	Sewer,	Indianapolis, Ind.	Jan. 6
Jan. 10.	Levee work,	Greenville, Miss.	Jan. 6
Jan. 10.	Steel bridges (2),	Ottumwa, Ia.	Dec. 30
Jan. 10.	Water bonds ($5,000),	Harriman, Tenn.	Dec. 30
Jan. 10.	Bridge approaches,	Hot Springs, Ind.	Nov. 25
Jan. 10.	Heating, etc.,	Rock Island, Ill.	Nov. 25
Jan. 10.	Grading,	Toledo, O.	Dec. 16
Jan. 10.	Refunding bonds,	Bowling Green, O.	Dec. 23
Jan. 10.	Electric light plant, etc.,	Winnipeg, Man.	Dec. 23
Jan. 10.	Electric lighting,	Winnipeg, Man.	Dec. 23
Jan. 10.	Electric machinery,	Bedford, Eng.	Dec. 23
Jan. 11.	Cement, stone, etc.,	Fort Monroe, Va.	Dec. 16
	Advertised, Eng. News, Dec. 16 to 30.		
Jan. 11.	Steam propeller,	Washington, D. C.	Nov. 25
Jan. 11.	Iron bridge,	Kansas City, Mo.	Dec. 30
Jan. 11.	School building,	New York, N. Y.	Jan. 6
Jan. 11.	Hospital addition,	New York, N. Y.	Jan. 6
Jan. 11.	Ferry house,	New York, N. Y.	Jan. 6
Jan. 11.	Steel ceilings, etc.,	New York, N. Y.	Jan. 6
Jan. 11.	Electric light plant,	New York, N. Y.	Jan. 6
Jan. 12.	Road,	Napa, Cal.	Dec. 30
Jan. 12.	Masonry bridge,	Hartford, Conn.	Dec. 30
Jan. 12.	School buildings (2),	Cranford, N. J.	Dec. 30
Jan. 12.	Brick and pipe sewers,	Buffalo, N. Y.	Dec. 30
Jan. 12.	Macadamizing, etc.,	Cincinnati, O.	Jan. 6
Jan. 12.	Sea wall,	Boston, Mass.	Jan. 6
Jan. 12.	Asphalt paving, etc.,	New York, N. Y.	Jan. 6
Jan. 13.	Water bonds ($2,000,000),	Boston	Jan. 6
Jan. 13.	Arched culvert,	Cleveland, O.	Dec. 23
Jan. 14.	Bonds,	Pleasant Ridge, O.	Dec. 23
Jan. 14.	Pipe sewer,	Norristown, Pa.	Dec. 23
Jan. 14.	Paving,	Omaha, Neb.	Jan. 6
Jan. 15.	Water and I't bonds ($15,000),	Austin, Tex.	Jan. 6
Jan. 15.	Reservoir (40,000,000-galls.),	Greenville, S. C.	Jan. 6
	Advertised, Engineering News, Jan. 6.		
Jan. 15.	Sea wall,	Tompkinsville (S. I.), N. Y.	Jan. 6
	Advertised, Eng. News, Jan. 6 and 13.		
Jan. 15.	Water pipe castings,	Brookline, Mass	Dec. 30
Jan. 15.	Pier substructure,	Duluth, Minn.	Dec. 16
	Advertised, Eng. News, Dec. 16 to Jan. 14.		
Jan. 15.	Plumbing, etc.,	Geneva, N. Y.	Dec. 30
Jan. 15.	Asylum building,	San Antonio, Tex.	Dec. 30
Jan. 15.	Electric light plant,	Douglasville, Ga.	Dec. 30
Jan. 15.	Water-works,	Douglasville, Ga.	Dec. 30
Jan. 15.	Stone sidewalks,	Sparta, Wis.	Jan. 6
Jan. 17.	Grading, draining, etc.,	Toledo, O.	Jan. 6
Jan. 18.	Water pipe and meters,	Jacksonville, Fla.	Jan. 6
Jan. 18.	County roads (120,000 ft.),	Bedford, Ind.	Dec. 23
Jan. 18.	Electric light plant,	Gloucester, Eng.	Dec. 30
Jan. 18.	Court house,	De Smet, S. Dak.	Dec. 30
Jan. 18.	Bonds,	New Britain, Conn.	Jan. 6
Jan. 19.	Hospital building,	Los Angeles, Cal.	Jan. 6
Jan. 19.	Dredging and filling,	Ellis Island, N. Y. H.	Jan. 6

Jan. 20. Highway bridges (2), Omaha, Neb. .....Jan. 6
Jan. 20. Building plans, Faribault, Minn. .....Dec. 30
Jan. 20. Crib and breakwater, Agate Bay, Minn...Dec. 30
Advertised, Eng. News, Dec. 30 to Jan. 13.
Jan. 20. Electric light plant, Los Angeles, Cal.....Jan. 6
Jan. 22. Garbage disposal plant, Youngstown, O.....Dec. 23
Advertised, Eng. News, Dec. 23 to Jan. 13.
Jan. 24. Grading, draining, etc., Boston, Mass. .....Jan. 6
Jan. 25. County bridge, Livingston, Mont. .....Jan. 6
Jan. 26. Water-works, Monroeville, O. .....Jan. 6
Advertised, Engineering News, Jan. 6.
Jan. 25. Sewerage system, Coimbra, Portugal.....Dec. 30
Jan. 25. Iron stairs, etc., Omaha, Neb. .....Dec. 30
Jan. 25. School buildings, Charlottestown, P. E. I...Dec. 30
Jan. 26. Mortar battery, Seattle, Wash. .....Dec. 30
Advertised, Eng. News, Dec. 30 to Jan. 20.
Jan. 26. Court house, Decatur, Ga. .....Dec. 9
Jan. 27. Artesian well, Fort Washington, Md. .....Dec. 30
Advertised, Eng. News, Dec. 30 to Jan. 20.
Jan. 28. Collecting garbage, etc., Minneapolis, Minn.Dec. 30
Jan. 29. Armor plant, Washington, D. C. .....Dec. 16
Jan. 26. Water tank trestle, Ft. Assiniboine, Mont..Jan. 6
Jan. 31. Grading, Toledo, O. .....Dec. 30
Jan. 31. Steel tow boat, New Orleans, La. .....Dec. 30
Advertised, Eng. News, Dec. 30 to Jan. 20.
Jan. 31. Brick sewers, Toledo, O. .....Jan. 6
Jan. 31. Paving, curbing, etc., Columbus, Ind.....Jan. 6
Advertised, Engineering News, Jan. 6.
Jan. 31. Railway, Cape of Good Hope, Africa.....Jan. 6
Feb. 1. Macadamizing, Passaic, N. J. .....Dec. 30
Feb. 1. Power plant, Seattle, Wash. .....Dec. 30
Feb. 1. Court house, Indianola, Miss. .....Dec. 23
Feb. 1. Electric light plant, Spring Green, Wis. ....Jan. 6
Feb. 1. Church building, Clinton, Mass. .....Jan. 6
Feb. 1. Steel ferry steamers (2), Birkenhead, Eng...Jan. 6
Feb. 3. Widening bridge, Washington, D. C.....Jan. 6
Advertised, Engineering News, Jan. 6.
Feb. 5. Water-works, Elkpoint, S. Dak. .....Jan. 6
Feb. 10. Lock, dam, etc., Yamhill River, Ore.....Jan. 6
Advertised, Eng. News, Jan. 6 to 27.
Feb. 10. Library, Pt. Elizabeth, Cape Good Hope..Nov. 25
Feb. 15. Trunk sewer, Jersey City, N. J. .....Dec. 23
Feb. 15. Filtration plant, Albany, N. Y.....Jan. 6
Advertised, Eng. News, Jan. 6 to 27.
Feb. 21. Vault, etc., Halletsville, Tex. .....Dec. 23
Feb. 28. Harbor work, Pernambuco, Brazil.....Dec. 23
May 1. Plans for sewage disposal, Belper, Eng.....Dec. 16
July 1. Water power, Madras, India.....Oct. 28
No date. Pump, pipe, etc., Sanford, N. C. .....Dec. 30

RAILWAYS.

ATLANTIC COAST LINE.—Press reports state this company has secured control of the Charleston & Western Carolina Ry., which runs from Port Royal, S. C., to Augusta, Ga., with an extension to Spartanburg, S. C. The capital stock of the newly acquired road is $1,200,000. Pres., H. Walters, Wilmington, N. C.

BRISTOL BELT LINE RY. & TERMINAL.—B. L. Dulaney, Pres., Bristol, Tenn., informs us that this company is now building two miles of new track in Bristol for electric street car purposes, and one mile of track for terminal purposes, thus furnishing connection between the Norfolk & Western Ry. and the Southern Ry. with the Bristol Furnace and the South Atlantic & Ohio R. R. and the Bristol, Elizabethton & North Carolina Ry.

CAPE OF GOOD HOPE.—Bids are asked by the Agent-General of the Cape of Good Hope, 112 Victoria St., Westminster, London, England, until Jan. 31 for the construction of a line of railway from Oudtshoorn to Klipplaat Station on the existing line between Graaff Rheinet and Uitenhage, via Willowmore, a distance of 154 miles.

CARTHAGE.—Our correspondent informs us that work has progressed rapidly on the construction of this line during the last month. It is now built and in operation between Cameron, on the Seaboard Air Line, via Carthage, to Halison, on the new Durham & Charlotte Ry., a distance of over 30 miles. In the past month the 9 miles from Carthage to Halison have been built, and operation for the first time will begin on Jan. 17. A contract has just been made with the North Carolina Car Co., of Raleigh, Va., for new cars and other equipment. Several new locomotives will probably be purchased in a short time. W. C. Petty, Gen. Mgr. and Purchasing Agt., Carthage, N. C.

CHARLESTON, CLENDENNIN & SUTTON.—Reports state that this line will be extended from Clay Courthouse, the present terminus, to Sutton, W. Va., a distance of 50 miles, during the coming year. Supt., Charles K. McDermott; Director, W. A. MacCorkle, Charleston, W. Va.

CHICAGO, ROCK ISLAND & PACIFIC.—Reports state that the Winterset branch of this road will be extended to Greenfield, Ia., in the spring. W. E. Dauchy, Supt. Maintenance of Way, Topeka, Kan.

CHOCTAW, OKLAHOMA & GULF.—F. A. Moliter, Ch. Engr., South McAllister, Ind. Ter., informs us that the proposed extension of this line from Wister, Ind. Ter., to a junction with the Kansas City, Pittsburg & Gulf R. R., a distance of 7 miles, is located and ready for letting. An extension from El Reno to Arapahoe, Okla., a distance of 60 miles, is under survey, and there are fair prospects for the construction of the same during 1898. Pres., Francis I. Gowen, 420 Walnut St., Philadelphia, Pa.

COAHUILA & ZACATECAS.—Reports state this line is now being built from Satillo, in the State of Coahuila, to a mining camp in the State of Zacatecas, 85 miles distant. About half of the work has been completed, and other extensions are proposed. T. S. Abbott, Ch. Engr., Satillo, Mexico.

COLORADO VALLEY.—About 10 miles of track have been laid and 18 miles graded on this proposed railway from Sweetwater to Ballinger, Tex., a distance of 79 miles. H. Irving Wheatcroft, Vice-Pres. and Gen. Mgr., Sweetwater, Tex.

COLUMBUS JUNCTION TERMINAL & BELT LINE.—This company was incorporated, Dec. 29, with a capital stock of $1,000, to construct and operate a standard gage railway to encircle the city of Columbus. The proposed line is to commence at Worthington, in Sharon township, and proceed thence via Hilliards, Alton, Galloway Station, Grove City, Gahanna, Central College and Westerville to the place of beginning. The incorporators are: Albert E. Boone, Jacob A. Stout, Jesse H. Weirick, H. A. Axline and Ed. G. Slough.

CRIPPLE CREEK SHORT LINE.—It is reported that the first active steps towards the construction of this line from Cripple Creek to Colorado Springs, Colo., 39 miles, were taken Dec. 23. Surveys are to be made, and contracts for construction will probably be let before Feb. 1. John T. Franklin and Harry B. Stone, both of Colorado Springs, are directors in the company.

GALESBURG, ETHERLEY & EASTERN.—It is proposed to extend this line to Lacon, Ill., to a connection with the Chicago, Rock Island & Pacific Ry. The road at present is 12 miles long, running from Wataga to Etherley, Ill., and the proposed extension is 40 miles in length. Mgr., James Gibson, Etherley.

GUADALUPE VALLEY.—The Guadalupe Valley Construction Co., of Victoria, Tex., has been incorporated, with a capital stock of $400,000. It proposes to construct a railway from San Antonio to Galveston, Tex.; work is expected to be commenced this month. John P. Nelson, Gen. Mgr.; J. A. McFaddin, T. M. O'Connor, J. J. Welder, Theo. Buhler, A. M. McFaddin, J. M. Brownson, T. D. Wood and G. A. Levi, all of Victoria.

HUDSON RIVER & LONG ISLAND SOUND.—This company was incoporated in New York Dec. 29, with a capital stock of $100,000. It is proposed to build a steam or electric railway from the New York Central & Hudson River R. R. station at Yonkers to the village of Pelham Manor, N. Y., a distance of 10 miles. The directors are: Chas. C. Bassett, Washington, D. C.; H. A. Welsh, Detroit, Mich.; Jas. F. Secor, Jr., Pelham Manor; Wm. L. Stout, Elizabeth, N. J.; D. B. Halstead, Paul Gorham and John H. Seed, Brooklyn, N. Y.; Walter R. Quick and Seward Baker, New York.

HUTCHINSON & SOUTHERN.—This company has been reorganized under a new charter, with a capital stock of $7,000. The company has now 24 miles of road between Blackwell & Medford, Okla., ready for track-laying, and it is hoped to be able to complete the line to Ponca, 25 miles further, by the middle of summer. Pres., W. A. Bradford, Boston, Mass.; Ch. Engr., H. L. Jackson, Wichita, Kan.

IDAHO NORTHERN.—This company has been incorporated in Idaho, according to reports, with a capital stock of $12,000,000, to construct a railway from Butte to Nampa, Idaho, and another from Nampa to Spokane, Wash.

ILLINOIS CENTRAL.—It is announced that this company is preparing to acquire the Cecilian branch of the Louisville & Nashville R. R., from Louisville to Cecilian, a distance of 40 miles. Failing to purchase this line, it proposes to build a road of its own from Cecilian Junction to 14th and Oak Sts., Louisville, Ky. D. Sloan, Ch. Engr., Chicago, Ill.

KANSAS CITY, OSCEOLA & SOUTHERN.—J. F. Hinckley, Ch. Engr., Bolivar, Mo., writes us that Geo. S. Good & Co., Lock Haven, Pa., has been awarded the contract for grading, pile and frame trestle bridges and masonry for the extension of this line from Osceola to Bolivar, Mo., a distance of about 38 miles. There will be approximately 700,000 cu. yds. of material to be moved, 5,000 lin. ft. of pile and frame trestle bridges, 2,000 cu. yds. of culvert masonry and 700 cu. yds. of bridge masonry, to be completed by May 1, 1898. Sixteeen bids were received for doing the entire work. As soon as practicable work will be vigorously pushed to completion. When this extension is built the entire line from Kansas City to Bolivar will be leased and operated by the St. Louis & San Francisco R. R. Co., thereby giving to that company an independent line to Kansas City, via Springfield, Mo. This will probably be by July 1.

KENTUCKY.—The Center Lumber Co., of Clay City, Kan., is securing the right of way for a narrow gage railway to be built from Torrent to Campton, Ky., a distance of about 6 miles.

LOUISIANA.—Reports state that the Victoria Lumber Co., of Victoria, La., will extend its lumber railway line to Many, La., or for a distance of 7 miles, where it will connect with the Kansas City, Pittsburg & Gulf.

LOUISVILLE & SOUTHEASTERN.—This company has been incorporated in Kentucky, with a capital stock of $2,000,000, to purchase and operate the old Richmond, Nicholasville, Irvine & Beattyville R. R. The incorporators are: Adolph Segal, Barclay J. Woodward and Herman Hooper, Philadelphia, Pa.; David W. Farleigh, Louisville, Ky.; James B. McCreary, Richmond, Ky.; G. W. Gourley, Beattyville, Ky.

MEXICAN SOUTHWESTERN.—Reports state that the construction work on this line has been suspended after the completion of 50 miles of grading. It is said that the company will be reorganized and the work resumed at an early date. The rails for the line have already arrived. This road is being built from a point on the National Tehuantepec road to the Guatemalan frontier, and would be an important link in the Panama-American system.

MEXICO, CUERNAVACA & PACIFIC.—Grading has been completed on this line through the Canon de la Mano, the great canyon below Puente de Ixtla; and all the masonry work has been finished on the viaduct bridge in the canyon. It is expected that connection will be made with Iguala by March 1. J. H. Hampson, Pres. and Gen. Mgr., Mexico, Mex.

MIAMI RIVER & BELT.—This company has been incorporated in Ohio, with a capital stock of $10,000. It is proposed to construct and operate a railway from St. Marys to Shelby and Lakeview through the counties of Anglaise, Logan, Shelby and Miami. The incorporators are: Charles Timens, I. H. Thedick, H. T. Mathers, Frank Hunter, G. L. Hunter and A. T. Wells.

MONROE.—R. A. Shotwell, Monroe, La., informs us that the Monroe Ry. & Construction Co. will construct a steam railway from Monroe to Natchitoches, La., via Winnfield, a distance of from 75 to 90 miles. Surveys have been commenced, and a five mill tax will be voted about Feb. 1, and will amount to $300,000; no other capital has yet been secured. Contract will probably be let shortly after taxes are voted. Pres., L. D. McLain; Ch. Engr., Ira W. Sylvester, both of Monroe.

MOORE COUNTY & WESTERN.—H. L. Thurston, Ch. Engr., Southern Pines, N. C., informs us that the preliminary surveys for this proposed steam railway have been completed, and most of the right of way secured. The negotiations for the necessary capital are nearly consummated, and it is expected that construction work will soon be begun. The new road will run from Southern Pines to Concord, via Pinehurst, Mangum and Norwood, N. C., a distance of 91 miles. Pres., James H. Waite, Boston, Mass.

NASHVILLE & KNOXVILLE.—A. J. Crawford, Pres., Terre Haute, Ind., informs us that the city of Nashville, Tenn., failed to vote the proposed subscription of $300,000, Dec. 31, which was to guarantee an extension of this line to Nashville.

ST & ELEC RYS g.n.

NICARAGUA.—Consul Wiesike, at Managua, reports that the congress of Nicaragua has authorized the government to sell or lease the national railway. It has been estimated that the line could be placed in perfect order by an expenditure of about $100,000. This is an important road, as it is the only line between the Tehuantepec and Panama roads.

PENN YAN & PENNSYLVANIA.—Chas. B. Brown, Binghamton, N. Y., informs us that all the surveys have been made and right of way obtained for this proposed railway from Penn Yan to Savona, N. Y., 35 miles distant. Contracts will not be let until the entire capital is secured; 16 miles of grading are completed. Pres., Geo. F. Andrews, Oswego, N. Y.; Ch. Engr., C. A. Cockroft, Binghamton, N. Y.

PICKENS.—We are informed that 10 miles of this proposed railway were completed by Jan. 1. The road will be 23 miles long, running from Earley to Pickens, S. C., and will be used to develop hard wood timber and farming tracts in this vicinity. W. J. Oliver holds control of the stock. Pres., Julius E. Boggs, Pickens, S. C.; Ch. Engr., Major Thos. B. Lee, Greenwood, S. C.

SANTA FE, PRESCOTT & PHOENIX.—Reports state that this company will build an extension of its line to Mayer Station, Ariz., in the Big Bug mining district, a distance of about 26½ miles. W. A. Drake, Ch. Engr., Prescott, Ariz.

SANTA RITA.—This company has been incorporated in New Mexico, with a capital stock of $50,000, to build a branch line of the Atchison, Topeka & Santa Fe Ry. from San Jose, near Silver City, N. Mex., into the Santa Rita gold and copper district. It is said that the road will be built at once. The directors are: E. P. Ripley, Pres. Atchison, Topeka & Santa Fe Ry., of Chicago, Ill.; R. K. Palen, J. H. Vaughan and R. C. Gortner, of Santa Fe, N. Mex.; H. L. Waldo and R. E. Twitchell, of Las Vegas, N. Mex.

SAN FRANCISCO & SAN JOAQUIN.—John F. Merrill, of San Francisco, Cal., was awarded a contract, Dec. 23, for furnishing 8,000 tons of steel rails to be used in the construction of the company's line between Stockton West and Point Richmond, Cal.

STOCKTON & TUOLUMNE COUNTY.—This company was incorporated in California, Dec. 24, with a capital stock of $1,000,000, with $60,000 paid in, to construct and operate a railway from Stockton to Summerville. The directors are: Robert S. Clark, Alameda, Cal.; Jabish Clement and Hannah Lewelln Lane, San Francisco; Annie Klein Rikert, Jamestown, Cal.; Maggie Downing Brainerd, San Jose, Cal.

SOUTHERN PACIFIC.—Press reports state that this company will shorten its line by about 20 miles, between Santa Barbara and Los Angeles, Cal., by building a short cut from Montalvo to Chatsworth Park. Also that the line north of San Luis Obispo will be improved. Engr., W. G. Curtis, San Francisco, Cal.

TOLEDO & NORTHWESTERN.—Reports state that this company expects to begin track-laying on this road between Albion and Charlotte, Mich., a distance of 24 miles, in February or March. D. C. Dunlap, Ch. Engr., Albion.

STREET AND ELECTRIC RAILWAYS.

SACO, ME.—Reports state that the surveys for the Saco River Electric R. R. have been completed, and that the construction of the same will be commenced in the spring. Francis A. Hobart, 4½ Beacon St., Boston, Mass., will have charge of the letting of contracts. Engr., George Hayward, 4½ Beacon St., Boston.

YARMOUTH, ME.—The Portland & Yarmouth Electric Ry. Co. is said to have been granted a franchise to operate its lines in this city.

BOSTON, MASS.—The petition of the Boston, Quincy & Falls River Bicycle Ry. Co. for a franchise to construct and operate an elevated railway in this city has been favorably reported to the board of aldermen.

NORTHAMPTON, MASS.—N. D. Winter, Treas. Northampton St. Ry. Co., informs us that all the surveys for the proposed 3-mile extension of this line in Northampton have been completed and the capital secured. The work will be done by the company. Pres., John Olmsted, Springfield, Mass.

WALTHAM, MASS.—The Newton St. Ry. Co. has asked permission to extend its line in this city to Lexington. Supt., F. G. L. Henderson, West Newton, Mass.

WORCESTER, MASS.—Contracts for track laying on its proposed line, to be 12 miles in length, will soon be awarded by the Worcester & Clinton Electric R. R. Co. Pres., A. S. Paton, Leominster, Mass.

BRIDGEWINSVILLE, N. Y.—Gleason & Kiely, of Syracuse, have been awarded the contract for the necessary grading on the Onondaga Lake R. R.——The meeting to consider the application of the Baldwinsville & Liverpool Ry. Co. for a franchise to construct an electric railway between this place and Syracuse has been postponed until Jan. 10.

WATERTOWN, N. Y.—E. R. Brown, of Watertown, informs us that nothing will be done until spring by the Black River Traction Co. towards improving the old Watertown & Brownville St. Ry., which it recently purchased. The projected length of the road is 10 miles, from Watertown to Dexter, via Brownville. Pres., J. A. Lebkencher, Newark, N. J.; Ch. Engr., S. R. Smith, Watertown.

KEYPORT, N. J.—Press reports state that a syndicate, at the head of which is Colonel Morrell, Pres. Delaware River Transportation Co., will carry through the scheme of connecting New York by trolley and boat, by building an electric railway between Keyport and Burlington, on the Delaware River, via Trenton and Bordentown, a distance of 45 miles. At Keyport the line will connect with steamboats for New York.

LONG BRANCH, N. J.—The Atlantic Highlands, Red Bank & Long Branch Electric Ry. Co. began operating its new road on Jan. 1 between Broadway and Seventh Ave. and Washington and Dudley Sts. Pres., A. G. Greenburg, 29 Broadway, New York.

PATERSON, N. J.—John L. Heins, Hoboken, N. J., Pres. New Jersey Electric Ry. Co. has been appointed as receiver for that company, which controls a system of electric railway projected to run between Singac, Paterson, Passaic, Rutherford, Hoboken and Jersey City, a distance of 60 miles, but which at present is operated only between Singac and Rutherford.

HACKENSACK, N. J.—It is understood that the Bergen County Traction Co., now operating a trolley line between Fort Lee and Englewood, will apply for a franchise through Hackensack next spring. It will continue its line through Englewood as soon as the courts give permission to cross the Erie R. R. track. J. B. Anderson, Ch. Engr., foot West 130th St., New York.

KITTANNING, PA.—Frank A. Moesta, Pres. Kittanning & Ford City St. Ry. Co., Kittanning, informs us that surveys have been made and the details and specifications are now being prepared for this proposed electric railway. Most of the right of way has also been obtained. The capital for construction has not yet been secured, but it is expected to obtain it before the spring, when work will be pushed on the construction of the road. When completed the line will extend from Nealton to Ford City and Roston, via Wick City, Kittanning, Edgewood and Manorville, a distance of 7 miles.

BALTIMORE, MD.—Reports state that the Baltimore, Halethorpe & St. Denis Ry. Co. will construct a trolley line in the southwestern suburbs of this city, to be 6 miles long. The power house, with electric equipment, is estimated to cost $135,000. Pres., Oregon E. Benson, 18 Glenn Bldg.

ELKTON, MD.—The Cherry Hill, Elkton & Chesapeake City Electric R. R. Co. will apply to the legislature for the transfer of the $58,000 standing to the credit of the old Elkton & Southern R. R. Co. The company holds a charter to construct an electric railway from the Pennsylvania state line to the Sassafras River.

WASHINGTON, D. C.—The Eckington & Soldiers' Home Ry. Co. having recently gone into the hands of a syndicate,

of which John E. Searles, of New York, is a prominent member, it is stated that the road will be shortly equipped with the underground electric system.—The extension of the Washington & Glen Echo R. R. from its present terminus, at the Aqueduct Road to Cabin John Bridge, is being considered. Edward Balzley, Vice-Pres. and Secy., 9th and F Sts.

WHEELING, W. VA.—The Wheeling & Elm Grove Ry. Co. has been granted a franchise to construct an electric line in the suburbs. Engrs., Brown & Hazlett.

CLEARWATER, FLA.—H. B. Plant, of 12 West 23d St., New York, has been granted a franchise by the council to construct and operate a system of electric street railways on any or all of the streets of this town. J. W. Drew, Mayor; William Matchett, Town Clk.

BRISTOL, TENN.—B. L. Dulaney, Pres. Bristol Belt Line Ry. & Terminal Co., Bristol, Tenn., informs us that his company is now building two miles of new track in Bristol for street railway purposes; and that the total street railway mileage of the company is 8 miles.

CANTON, O.—The city council has granted a franchise to the Canton & Massillon Electric Ry. Co. to construct a street railway on East Lake St.; work will begin at once. Pres., W. A. Lynch; Engr., J. H. Holl.—The Stark Electric Ry. Co. is said to have applied for a franchise to extend its line through this city. Pres., R. R. Jacobs, Pittsburg, Pa.

MASSILLON, O.—Press reports state that a company is being formed for the construction and operation of an electric railway between Massillon and Dalton, O.

ZANESVILLE, O.—William Christie, of Akron, O., has been appointed receiver for the Zanesville Street Ry. & Electric Co. The bonded indebtedness is said to be $200,000 and the floating debt $75,000. Pres., J. Hoge.

BAY CITY, MICH.—The Bay, Tuscola & Huron Ry. Co. was incorporated Dec. 23, with a capital stock of $100,000. It is proposed to build an electric line from Bay City and West Bay City to Sebewaing, a distance of 30 miles. The directors are: George H. Granger, Frank L. Wand, Leman L. Culver, James Seed and Frank S. Pratt; an additional stockholder is Reuben C. Tasker, all of Bay City.

LANSING, MICH.—The Lansing, Dexter & Ann Arbor Electric Ry. Co. was incorporated Dec. 22, with a capital stock of $250,000, to construct an electric railway from Lansing to Dexter. Pres., C. A. Mapes, Lansing; Treas., Thomas Berkett, Dexter, Mich.

CHICAGO, ILL.—The Chicago Electric Traction R. R. Co. has been incorporated, and is designed to absorb the trolley lines in the southwestern part of the city. The capital stock is said to be $2,000,000, and $1,500,000 in bonds will be issued at once. The company has already acquired 12 trolley franchises, four of which are in operation, according to report, among them being the Calumet Electric Ry. and the Englewood & Chicago Electric Ry., with a trackage of 32 miles.

KANSAS CITY, KAN.—The Kansas City, Forest Lake & Bonner Springs Ry. Co. was incorporated, Dec. 21, with a capital stock of $250,000, to construct an electric line from Kansas City to Bonner Springs, a distance of about 20 miles. It is said that the railway will be in operation by May 1. The directors for the first year are: John W. McDaniel, of Bonner Srings; Rudolph Markgraf and W. S. Campbell, of Kansas City, Mo.; Charles A. Ebert and C. T. Hutchings, of Kansas City, Kan.

ELECTRIC LIGHT AND POWER.

AUSABLE FORKS, N. Y.—I. A. Chahoon, Ausable Forks, writes that the I. & J. Rogers Co. is considering the question of putting in an electric light plant at Black Brook, three miles distant, to convey power to its pulp mill. Nothing will be done at present.

FLUSHING (L. I.), N. Y.—Press reports state that the board of town officers of Flushing on Dec. 30 awarded a contract to the Flushing Electric Light & Power Co. to extend its system from Flushing to Bayside, Little Neck, Douglaston and to the town line between Flushing and Jamaica. The contract was made for 10 years, and calls for 98 lights of 1,200 c. p. each, the price being $8,900 a year, payable monthly. There will be 44 lights on Broadway, which is the principal highway between Flushing Village and all eastern points; 4 in Douglaston, 10 in Bayside, 8 in Little Neck, and 25 on the Jamaica road. On Jamaica Ave. the lights will be 550 ft. apart, and all the lights are to be lighted from a half hour after sunset to a half hour before sunrise. The lights are all to be in complete operation within three months from date.

MOUNT MORRIS, N. Y.—At the election held Dec. 28 the people voted to renew the contract from April 10 for lighting this place for five years to the Mount Morris Illuminating Co. As the result of this election a power dam will be built by a number of capitalists. Geo. W. Rafter, Consult. Engr., Rochester, N. Y., may be addressed.

NEW YORK, N. Y.—Bids are asked by the board of education, 585 Broadway, until Jan. 11 for furnishing and installing a plant for public school building No. 42, Hester, Ludlow and Orchard Sts.

SYRACUSE, N. Y.—Chas. Hughes, Wm. B. Kirk, Col. John F. Gaynor and Wm. P. Gannon have decided to construct an electric light plant. The subways owned by Hughes & Co. will be used for the wires.

BALTIMORE, MD.—It is reported that the Consumers' Ice Co. will build an electric light in connection with its proposed ice plant at Arlington, the two to cost about $50,000. Pres., Aug. Fenneman.

HAGERSTOWN, MD.—D. W. Richard, Pres. Bd. St. Comrs., writes us that a home company will be organized to put in an electric light and power plant.

LAUREL, MD.—The citizens have decided to postpone indefinitely the purchase of the electric light plant. Chas. Phelps, Mayor.

NEW WINDSOR, MD.—L. H. Dielman writes us that at present there is a small light plant and water-works in operation. It is proposed to increase the plant in the spring. There will be required a 20-HP. gasoline engine and a 200-light dynamo. No contracts for extensions have yet been let. Population, 500. The company at present consists of Mr. Dielman, N. H. Baile and Dr. I. A. Buffinton.

WASHINGTON, D. C.—Press reports state that the syndicate of which Richard Ough is manager and Gustav Stahl, of Philadelphia, is the representative, owners of the Glen Echo R. R., and the large sub-division in Maryland, near the District line, known as West Chevy Chase, intend to put in operation the old power house on the Conduit road for the purpose of making it a center for supplying power and light for that entire region. They are trying to obtain the contract for supplying the Washington & Great Falls R. R. with power, a service now being performed by the Potomac Light & Power Co.

WASHINGTON, D. C.—The following submitted bids to the treasury department Dec. 30 for furnishing the machinery and for constructing an electric power and light plant in the post office building in this city: N. Y. Electric Equipment Co.; Etherington & Co., Philadelphia; J. F. Buchanan & Co., Philadelphia; Boyce & Mareau, Washington; McCoy & Howard Eng. Co., Baltimore; Wallace & Stebbins, 111 E. German St., Baltimore; Ft. Wayne (Ind.) Electric Corporation; Southern Electric Co., Baltimore; Maryland Mfg. & Const'n. Co., Baltimore; Chicago Edison Co., Chicago; Talmadge & Wilson, Washington; Sawyer Electrical Co., Philadelphia; Manhattan Supply Co., New York; Arthur Franzen & Co., 225 Dearborn St., Chicago; E. McLean & Chas. H. Roberts, Washington; General Electric Co., New York; Walker Co., Cleveland, O.; Siemens & Halske, Broadway and Pine St., New York; Western Electric Co., Chicago; Sprague Electric Co., New York; Westinghouse, Church, Kerr & Co., New York; Watertown (N. Y.) Steam Engine Co.; Westinghouse Electric & Mfg. Co., Pittsburg.

FORT MONROE, VA.—Capt. T. L. Carey, U. S. Engr., Norfolk, received the following bids Dec 23 for constructing an electric light plant, as advertised in Engineering News. (1) being for dynamo, engine and switchboard; (2) for one non-portable and two portable storage batteries in trays and fixtures, etc.; (3) for wiring, lamps, cut-outs, switches, etc.:

	1	2	3
Electric Storage Battery Co., Phila.	....	$2,530	...
Driggs & Woodward, B'klyn, N Y.	$1,982	2,950	$2,428
Sprague Electric Co., New York...	1,545	2,530	1,267
Western Electric Co., New York...	....	2,530	....
General Electric Co., Baltimore....	1,883	....	....
Jas. L. Belote, Norfolk, Va.....	1,568	2,930	1,160
McKay-Howard Eng. Co., Balto...	1,394	2,390	700

RICHMOND, VA.—Mayor Robt. M. Taylor signed the ordinance Dec. 23 granting a 30-year franchise to the Virginia Electric Co., of Baltimore. It gives the company the privilege of erecting a plant and utilizing the waste flow of the James River for the production of electric power. It is understood that surveys of the river will be made and also the erection of the plant will be begun as soon as possible. The company has already secured a large number of additional contracts to furnish power to manufacturers of Richmond, among them one with the Richmond Locomotive Works, which intends to substitute electricity for steam. Estimated cost, $1,000,000. Pres., F. I. Todd; Vice-Pres., W. J. Cross; Secy.-Treas., A. D. Bobson; directors, F. I. Todd, W. J. Cross, A. D. Bobson, Robert Mollnard and Josiah Pierce.

CLEARWATER HARBOR, FLA.—J. W. Drew, Mayor, has signed the ordinance granting a 50-year franchise for electric light, water-works and a street railway to H. B. Plant & Co., of New York.

OCALA, FLA.—Arrangements are reported as being made for the construction of the proposed plant, for which $16,000 in bonds were voted Dec. 14.

DOTHAN, ALA.—H. R. Oldson, Supt. Dothan Water-Works, writes us that the city authorities wish to correspond with with manufacturers in regard to erecting a plant.

WESSON, MISS.—R. S. Purser, Wesson, is said to have been granted a franchise for lighting this city with electricity from Feb. 1.

WEST POINT, MISS.—It is reported that the council will put in a plant of 80 HP. C. W. Gibson may be addressed.

HURON, O.—The construction of an electric light plant has been decided upon by the council, according to reports.

SYCAMORE, O.—An election will probably be held Jan. 17 to vote on the question of building a plant and water-works.

GRAND RAPIDS, MICH.—City Engineer Ames and Mayor Stow are securing information in regard to subways for electric light and telephone wires.

BLUE MOUND, ILL.—The council is said to be considering estimates for an electric light plant.

CHICAGO, ILL.—The Cosmopolitan Electric Co. is reported to have purchased land on 22d St. for the power house for its proposed plant, to cost over $100,000.

LYONS, ILL.—A company is reported as being organized to put in a plant to cost about $10,000.

TOLUCA, ILL.—The question of granting a franchise is reported as being considered by the council.

MEDFORD, WIS.—A local company is reported as being organized to build a plant.

RHINELANDER, WIS.—The question of constructing a plant is being considered, according to reports.

SPRING GREEN, WIS.—Bids are asked until about Feb. 1 for a complete plant; population, 5,000. Address G. S. Post.

CENTREVILLE, IA.—Wm. Platman and D. C. Bradley are said to have applied for a franchise for a plant to cost $20,000.

NORTH MINNEAPOLIS, MINN.—Chas. L. Pillsbury, City Electrical Inspector, writes us that the contract for improvements in the electric plant at the North Side pumping station has been awarded to the Electric Machinery Co., Minneapolis. The plant is a small one and the improvements will amount to a little over $300. No other plant is being remodeled at present.

HASTINGS, NEB.—It is reported that the plant in this city, destroyed by fire Dec. 24, at a loss of about $15,000, will be rebuilt. Charles Lane may be addressed.

GREAT FALLS, MONT.—The question of organizing a company to put in a plant is being considered.

LEWISTOWN, MONT.—C. F. Lettel, Secy., writes us that the stock has been subscribed and preliminary surveys made for water rights and location of a plant. Turbine wheels will be used. Mr. Lettel wishes to secure estimates for furnishing turbine wheels, dynamos, 2,000 to 5,000 of 16-c. p. lights, etc. Work will be begun as soon as the frost is out of the ground.

ST. LOUIS, MO.—A bill is being considered by the municipal assembly authorizing the board of public improvements to advertise for bids for lighting that part of the city north of Keokuk St. for a period of 10 years. Bond, $500,000.

BATESVILLE, ARK.—The council is reported as arranging for the construction of the proposed plant and water-works, to cost about $22,000.

COLORADO SPRINGS, COLO.—Press reports state that the county commissioners on Dec. 23 granted a right-of-way for the line of the Colorado Electric Power Co. The plant of this company is located near Canon City, and it is the purpose of the company to supply electric power for the use of the mines in the Cripple Creek district. D. V. Donaldson and others of this city are interested in the company.

AUSTIN, TEX.—Bids are asked until Jan. 15 for the purchase of $15,000 of 5% electric light and water bonds, according to reports. John D. McCall, Mayor.

EVERETT, WASH.—Press reports state as follows: The Everett & Monte Cristo R. R. Co. will take steps to utilize the water power from Granite Falls. The scheme includes the lighting of Snohomish and Everett and other towns along the route, the running of the Everett and Lowell street car lines, and furnishing of power to the Everett and Snohomish manufacturing enterprises. It is estimated that 15,000 HP. can be generated.

HEALDSBURG, CAL.—Trustees Pyne and Wolcott are reported as considering estimates for the proposed plant.

LOS ANGELES, CAL.—The contract for constructing the plant for the East Side Lighting Co. will be let not later than Jan. 20. S. A. W. Carver, Trustee and Pres., 421 Bullard Block, Los Angeles, writes us that work will be begun about Feb. 1. The plant will be an alternating current and distributing system for incandescent and arc lighting and for heating and motive power. About 3,000 lights will be installed.

GRAND FORKS, B. C.—John A. Coryell is reported as making surveys for a large power plant at Cascade City for the Cascade Townsite Co.

BRIDGETOWN, N. S.—Curry, Bent & Co. are reported as interested in a proposed power plant at this place.

THAMESFORD, ONT.—The question of building a plant is being considered, according to reports.

GUAYMAS, MEX.—Milton Thompson, owner of the electric light plant at Hermosillo, Mex., and representing the Compania Explotadorade Maderas, has secured a concession to light this place. Estimated cost of plant, $30,000 gold.

BERLIN, GERMANY.—Press reports state that the German Transoceanic Electric Co., with headquarters in Berlin, has been organized, with a capital stock of 10,000,000 marks, for the purpose of erecting electric power stations in America. A central station will first be established at Buenos Ayres, for lighting and general supplies.

NEW COMPANIES.—Ward Electric Light & Power Co., Boulder, Colo.; $15,000; C. W. Betts, J. A. Kilton, A. W. Olsen.

Illinois Fuel & Power Co., Sparta, Ill.; $100,000; H. L. Browning, Benjamin F. Ford, D. M. Browning.

NEW COMPANIES.—Saranac Lake Light, Heat & Power Co., of Franklin and Essex counties, Saranac Lake, N. Y.; to acquire the franchises of the Saranac Lake Electric Light Co.; $100,000; directors, Frederick A. Isham, Charles S. Stackpole, New York; Orlando Blood, Wallace Murray, Perley A. Gould, Saranac Lake.

Peru-LaSalle Gas Light & Power Co., Peru, Ill.; $120,000; to operate street railways, gas and electric light works, pleasure grounds and parks; W. B. McKinley, Charles Zilly, F. M. Zilly.

Colonial Electric Co., New York, N. Y.; to manufacture electricity to produce light, heat and power; $25,000; Garrett S. Odell, Orlon Howard Cheney, New York; Horace S. Andrews, Brooklyn.

Azusa Electric Light & Power Co., Azusa, Cal.; $5,000; C. H. Huber, M. V. Greever, J. W. Calvert.

BRIDGES.

LOWELL, MASS.—Geo. Bowers, City Engineer, informs us that the following bids were received Dec. 28 for constructing a plate girder bridge 105 ft. long and 50 ft. wide:

Canton Bridge Co., Canton, O.	$6,500
The Vermont Construction Co., St. Albans, Vt.	5,900
Harrington, Robinson Co., Boston, Mass.	6,090
Boston Bridge Works, Boston, Mass.	6,863
Toledo Bridge Co., Toledo, O.	5,975
Frank R. Long, 320 Broadway, New York (accepted)	5,612
New England Structural Co., East Everett, Mass.	6,319
Pittsburg Bridge Co., Pittsburg, Pa.	6,166
The King Bridge Co., Cleveland, O.	5,797
The Groton Bridge & Mfg. Co., Groton, N. Y.	6,500
The Berlin Iron Bridge Co., East Berlin, Conn.	6,175
Massillon Bridge Co., Massillon, O.	5,750
Horseheads Bridge Co., Horseheads, N. Y.	5,975
Edge Moor Bridge Works, Wilmington, Del.	5,837
New Jersey Steel & Iron Co., Trenton, N. J.	6,124
Wrought Iron Bridge Co., Canton, O.	6,495
Pennsylvania Steel Co., Steelton, Pa.	5,960

NEW YORK, N. Y.—Reports state that Assemblyman Brennan of Kings county will introduce an East River Bridge bill designed to obviate the danger incurred by the passage of railways over the Brooklyn Bridge. The bill will provide for a new bridge to be located from ten blocks to a mile north of the bridge now in use and to be devoted entirely to railway uses.

SYRACUSE, N. Y.—The Watertown & Ogdensburg Ry. Co. is about to be petitioned, according to reports, to construct a bridge over the Erie Canal at Franklin st.

BIRMINGHAM, PA.—Reports state that contracts have beeen awarded to M. M. Stebbins for the construction of the foundation of the bridge over the Juniata River, at $3,760, and that the Penn Bridge Co., Beaver Falls, has the contract, at $5,740, for the superstructure.

WASHINGTON, D. C.—The District commissioners have recommended the widening of the aqueduct bridge over Rock Creek on Pennsylvania ave.

WASHINGTON, D. C.—Bids are asked by the district commissioners until Feb. 3 for widening the P St. bridge over Rock Creek, as stated in our advertising columns.

PORT HURON, MICH.—Reports state that the Toledo Bridge Co., Toledo, O., has been awarded a contract at $2,960 for constructing a bridge at Elmwood st.

SAGINAW, MICH.—Resolutions have been adopted by the council directing H. E. Terry, Cy. Engr., to prepare plans and estimates for the proposed bridge at Court St., to be large enough for a double track and carriageway, and not to cost over $75,000.

LA CROSSE, WIS.—We are informed that the following bids were received Dec. 29 for constructing two bridges 60 ft. long by 16 ft. wide on steel tubular piers:

Wisconsin Bridge Co., Milwaukee, Wis.	$2,617
Gillette Herzog Mfg. Co., Minneapolis, Minn.	2,400
Milwaukee Bridge & Iron Works, Milwaukee, Wis.	2,491
Wrought Iron Bridge Co., Canton, O.	2,718
Chicago Bridge Co., Chicago, Ill.	2,447
New Columbus Bridge Co., Columbus, O.	2,532
Clinton Bridge & Iron Works, Clinton, Ia. (accepted)	2,320

SHREVEPORT, LA.—The Shreveport Bridge & Terminal Co. has been incorporated with a capital stock of $50,000 to construct a bridge across the Red River, near this place. Incorporators: T. Alexander, Pres.; J. L. Fletcher, Secy.; W. C. Vance, A. Currie, T. C. Barret.

OMAHA, NEB.—Bids are asked until Jan. 20 for constructing two highway bridges on 20th st., in Kountze Park, to have a span of 40 ft. and about 50 ft. wide, over the Lagoon. A. P. Tukey, Pres. Park Comn.

LIVINGSTON, MONT.—Bids are asked by the city clerk until Jan. 25 for constructing a county bridge across Rock Creek.

DALLAS, TEX.—The Dallas county commissioners on Dec. 27 awarded the contract for taking down the Oak Cliff railway bridge, 150 ft. long by 15 ft. wide, and reconstructing it to a 24 ft. roadway across the Trinity river at the foot of Houston st. for the new Air Line wagon road. The bids were as follows, all local bidders: C. R. Lain (accepted), $1,200; C. W. Olcott & Pittman, $2,310; The King Bridge Co., $3,290.

HOUSTON, TEX.—It is contemplated to construct a 100 ft. steel bridge at Franklin st. on cylinder piers, with an asphalt roadway. It is also proposed to build a concrete arch of 60 ft. span and 10 ft. rise at Beauchamp Springs, to include 915 cu. yards of concrete.

DENVER, COLO.—D. W. Campbell, Engr., has been directed by the board of public works to prepare new plans and estimates for the proposed viaduct at 14th St., which will probably be constructed in the spring.

MONTEREY, MEX.—A Monnom, Dir. Gen. Tampico Route, Ferrocarril de Monterey Al Golfo Mexico, Monterey, writes us that the company is erecting two metallic bridges, and that it is waiting for three other metallic bridges from Europe. These bridges will be erected over the San Juan River and the Vagueros River. The company shall contract for the masonry work during January.

VENTURA, CAL.—Geo. C. Power, County Surv., informs us that the following bids were received about Dec. 30 for constructing a steel and wooden bridge over the Santa Clara River, to have 12 80-ft. spans, the work to consist of 2,800 ft. of levee work with timber bulkhead, 620 ft. of timber trestle with sheet piling bulkheads, 985 ft. of 12 spans of combination steel and timber truss with 13 pile piers of 10 piles to each pier, and 31,680 sq. ft. of asphalt pavement 1-in. thick on plank:

Healy, Tibbetts & Co., San Francisco, Cal.	$31,183
Cal. Bridge & Const'n Co., San Francisco (accepted)	31,339
San Francisco, (Cal.) Bridge Co.	35,886
D. P. N. Little, Los Angeles, Cal.	36,745
Thomson Bridge Co., San Francisco	37,000
Darby, Leydon & Co., San Francisco	38,700
Sawyer & Arthur, Los Angeles, Cal	39,560
J. D. Mercereau, Los Angeles (excepting levee work)	31,902
A. B. Hogan, Pasadena, Cal. (levee work only)	11,450
French & Reed, Los Angeles (levee work only)	11,200

BUILDINGS

BROOKLINE, MASS.—At the recent town meeting at this place it was voted to build a new police station to cost $68,000; a new grammar school building to cost, with the land, $140,000; and another school building to cost $50,000. Horace James, First Selectman; A. H. Fetch, Town Engr.

CLINTON, MASS.—Bids are asked until Feb. 1, according to notice, for a new brick and marble church building for the First Evangelical Society; to cost about $50,000. Arch., Henry Lapointe, Fitchburg, Mass.

GENESEO, N. Y.—Plans have been prepared for a new court house for Livingston county to be erected in this city, at the foot of Main St.; to cost about $30,000. Archs., Brugdon & Hillman, Rochester, N. Y.

MALDEN, MASS.—Wm. H. Hawley, Clk. of Committees, informs us that Whitman & Hood, of Boston, have been chosen as architects for the 3d Ward school building.

WEST NEWTON, MASS.—Bids are asked until Jan. 8 for erecting a brick boiler house and installing a steam heating apparatus at the police station, court house and city hall building. Geo. H. Elder, Supt. Pub. Wks.

BINGHAMTON, N.Y.—An issue of $50,000 city hall bonds will be sold in this city on Jan. 17.

COLD SPRING HARBOR (L. I.), N. Y.—It is reported that a 3-story residence, 60 × 150 ft. will be built at this place for Walter Jennings, of the Standard Oil Co., 26 Broadway, New York, at a cost of $100,000. Archs., Carrere & Hastings, 44 Broadway, New York.

NEW YORK, N. Y.—The following bids were received by the supervising architect, Washington, D. C., Jan. 3, for placing 10 freight elevators, two passenger elevators, one package lift and one ash lift in the Appraisers' warehouse in this city; the 120 days are working days:

Bidder.	Elevators. Electric.	Elevators. Steam.	Time.
Morse, Williams & Co., Philadelphia	$68,500	$78,658	120 dys.
Otis Bros & Co., New York	66,460	54,900	April 1.
Sprague Electric Co., New York	59,990	.....	"
Standard Elev. Mfg. Co., Chicago	59,900	57,400	"

—The following bids were received by the board of education, Jan. 4, for the construction of a new school, No. 44, at Hubert and Collester Sts.:

Jones & O'Connor, 71 West 10th St.	$193,931
Mapes-Reeve Construction Co., 150 Nassau St.	1[illegible],000
Luke A. Burke & Co., West 59th St.	198,000
P. J. Brennan, 22d St. and 6th Ave.	198,000
Thos. Cockerill & Son, 550 West 41st St.	204,000
Murphy Bros., 407 East 101st St.	204,663
P. Gallagher, 156 5th Ave.	207,724
Chas. Cowan, New York	210,475
T. Mahony & Son, 156 5th Ave.	212,900

NEWBURG, N. Y.—The armory at Newburg is to be enlarged and improved. The present wooden roof of the drill hall, 80 × 130 ft., will be replaced by a new one supported by eleven steel trusses. These will be arranged to support the mezzanine floor, where new lockers and equipment cases will be placed, and also the visitors' gallery. The Berlin Iron Bridge Co., of East Berlin, Conn., has the contract for furnishing and erecting the steel trusses as well as the other iron work in the building, consisting of steel plates in the rifle pit, girders in the floor and walls, and other miscellaneous iron work.

NEW YORK, N. Y.—Bids are asked by the board of education, at 585 Broadway, until Jan. 11, for erecting a new school building for Public School 168, on 104th and 105th Sts., between 1st and 2d Aves.; also for supplying the heating and ventilating apparatus and electric lighting plant for Public School 42, Hester, Ludlow and Orchard Sts.——Bids are asked by the department of public charities, 66 3d Ave., until Jan. 7, an extension of time, for building an addition to the drug department at Bellevue Hospital; for building the receiving and ferry house at the City Hospital Landing on Blackwell's Island; and also for flooring and steel ceilings at the City Hospital, as mentioned in our issue of Dec. 23.——Plans have been accepted by the board of trustees of the College of the City of New York for the new college building to be erected at 138th St. and Convent Ave. Pres., Gen. Alexander S. Webb; Arch., Geo. B. Post, 33 East 17th St.——Plans have been filed by J. Fleischmann & Son, 2 East 116th St., for six 5-story brick flat buildings on 114th St., near 1st Ave., to cost $118,000. Arch., Charles Stegmayer, 306 East 82d St.; by Harry Rothschild, 82 East 81st St., for four 5-story brick flat and store buildings at 115th St. and 5th Ave., to cost $101,000. Arch., G. F. Pelham, 503 5th Ave.; by George Schreiner, 104 West 121st St., for four 4-story brick flat buildings on 124th St., west of 2d Ave., to cost $116,000. Arch., John Hauser, 1441 3d Ave.; by G. H. Penniman, 536 5th Ave., for a 5-story brick dwelling on 5th Ave., near 88th St., to cost $65,000. Archs., Babb, Cook & Willard, 874 Broadway; by F. W. Moore, 119 West 33d St., for two 5-story brick flat buildings on St. Nicholas Ave., near 111th St., to cost $85,000. Arch., W. J. Dilthy, Union Square West; by the city for a 1-story brick, stone and iron horticultural building in Bronx Park, to cost $200,000. Archs., Lord & Burnham Co., 160 5th Ave.; by W. C. Oesting, 342 St. Ann's Ave., for four 5-story brick flat buildings on 137th St., near Brown Place, to cost $80,000. Arch., 748 East 138th St.; by Noble & Gauss, 1513 Lexington Ave., for two 6-story brick flat buildings on 83d St., near Riverside Drive, to cost $130,000. Archs., Jas. E. Ware & Son, 489 5th Ave.——The department of docks, Dec. 23, awarded the following contracts: For building a passenger and freight shed on the pier at the foot of West 129th St., to Augustus Smith, 39 Cortlandt St., at $60,322; for preparing for and building a recreation structure on Pier, New, 43, near the foot of Christopher St., North River, to R. H. Hood, 26 Cortlandt St., at $72,865; for preparing for and building a recreation structure on the pier at the foot of West 50th St., North River, to Augustus Smith, 39 Cortlandt St., at $111,253.——The following were the lowest bidders, Dec. 31, for work to be done for the department of public charities: Murphy Bros., 407 East 101st St., for repairs and alterations to the Harlem Hospital, $3,497; Scheidecker & Gonder, 556 West 170th St., for materials and labor required for laying new floor of fireproof material in main kitchen, Randall's Island, $1,499; Murphy Bros., 407 East 101st St., for additions and alterations to building for reception of insane, Bellevue Hospital, $16,000; Ryan & McFerran, 106 East 23d St., for erecting central stables on East 26th St., between 2d and 3d Aves., $31,495.——The following were the lowest bidders, Dec. 31, for work to be done for the fire department: Alfred Nugent & Son, 41 Columbia St., for building a new engine house at 42 and 44 Great Jones St., $37,973; Thos. B. Leahy, 350 West 31st St., for alterations and repairs to engine house No. 21, $13,431.

SCHENECTADY, N. Y.—It is reported that Butt, Barnes & Ingalls, Oneonta, N. Y., have been awarded the contract for completing the state armory building, in this city, at $48,448. Charles Whitney Tillinghast, Adjutant Gen., Albany, N. Y.

NEWARK, N. J.—The erection of a new city hall building, in this city, to cost about $500,000, is contemplated.

PITTSBURG, PA.—A. & S. Wilson, of Pittsburg, are said to have been awarded the contract for constructing the 5-story annex to the West Penn Hospital, at about $60,000.

WASHINGTON, D. C.—Plans have been prepared for six 3-story brick and brownstone dwellings on Princeton St., Columbia Heights. Arch., B. Frank Myers.——L. C. Morris will build three 3-story brick dwellings at 2934 to 2938 13th St., Columbia Heights.——T. H. Pickford will build four brick houses at 806 12th St., N. E., and two at 809 G St., N. E.——Plans are being prepared for a large office building to be erected by the Columbian University, on 5th St., opposite Judiciary Square.——Secretary Gage has recommended an additional appropriation of $175,000 to complete the City Post Office building.

FARMVILLE, VA.—The storage warehouse of Duval, Robertson & Co., commission merchants, was destroyed by fire Jan. 2, causing an estimated loss of $150,000; insurance, about $50,000.

LEBANON, TENN.—A recent fire in this city destroyed the buildings on one side of the public square, causing a loss of about $60,000.

LOUISVILLE, KY.—Reports state that plans have been prepared for Smith & Nixon, 4th Ave., for a store building to cost about $25,000. Arch., H. Walters, Columbia Bldg.——Plans have also been prepared for two stores for Weissinger & Kelly, to cost $25,000. Arch., H. McDonald, Bull Block.

JACKSON, MICH.—Robert Lake informs us that it is too soon to consider the letting of contracts or the purchase of building material for the proposed theatre building.

CHICAGO, ILL.—Reports state that the directors of the Chicago Exposition Co. have decided to rebuild the Coliseum building, burned on Dec. 24. Pres., John T. Dickinson.——John Druecker is reported as about to construct a 15-story warehouse, of steel construction, at 111 to 121 North Canal St., estimated cost, $300,000.

DETROIT, MICH.—The following bids were received by the supervising architect, Dec. 14, for furnaces to be used in connection with the boilers of the heating apparatus in the U. S. Court House building at Dertoit, Mich: Hawley Down-Draft Furnace Co., Chicago, Ill., $5,280; Scholl Bros., Detroit, Mich. (Reynolds furnace), $3,125; A. Harvey's Sons Mfg. Co., Detroit, Mich. (Ohelstrom furnace), $3,400; Murphy Iron Works, Detroit, Mich. (Murphy furnace), $5,740; Westinghouse-Church-Kerr Co., New York (Roney furnace), $6,006.

OMAHA, NEB.—Bids are asked until Jan. 10 for the construction of colonnades connecting the Government Building with the Fine Arts and Agricultural buildings, on the grounds of the Trans-Mississippi and International Exposition. F. P. Kirkendall, Mgr. Grounds and Bldgs.

OMAHA, NEB.—The following bids were received Dec. 18 by F. P. Kirkendall, Mgr. Grounds and Bldgs., for the carpentry work on the horticultural building for the Trans-Mississippi and International Exposition:

P. H. Mahoney & Co., Omaha, Neb	$34,391
Wm. Goldie & Sons Co., Chicago, Ill	27,740
Thomas Herd, Omaha, Neb	28,800
R. C. Strehlow, Omaha, Neb	25,350
Bassett & Percival, Omaha, Neb	29,864
Westlake Const. Co., St. Louis, Mo	22,900
Asa Philpot, Omaha, Neb	29,025
H. B. Mayo & Co., Omaha, Neb	29,730
John Rasmussen, Omaha, Neb	27,548
Hester & Caslin, Lincoln, Neb	27,464

JAMESTOWN, N. DAK.—The following bids were received, Dec. 20, by Geo. H. Woodbury, Chn. County Comrs., for furnishing a steam-heating plant for the county court house at this place, John V. Vennum, County Audr.: Roberts, Goss & Co., St. Paul, Minn., $1,700; Maginn & Bradley Co., Chicago, Ill., $2,375; A. J. Craig, Fargo, N. D., $1,719; Saxton, Phillips & Co., Minneapolis, Minn., $1,690; Moore Heating Co., Minneapolis, Minn., $1,588; Kelley & Lamb, Minneapolis, $1,483; Pond & Masey Co., Minneapolis, Minn. (accepted), $1,388; Masters & Canham, Jameston, N. D., $1,900; Pond & Masey Co., Minneapolis, Minn., $1,500.

ANACONDA, MONT.—A county election will be held here Jan. 25 to vote on the proposition to erect a new court house for Deer Lodge county, to cost about $100,000.

DENVER, COLO.—Plans have been prepared for a new natorium and bath house to be erected by the Denver Natorium Assn., at 18th and Lincoln Aves., at a cost of about $125,000. Arch., Frank E. Edbrooke, 811 to 814 People Block.

COMMERCE, TEX.—A fire in this city, Jan. 3, destroyed the Presley Building, the Post Office Building and other adjacent buildings, causing a reported loss of $100,000; insurance, about $30,000.

LOS ANGELES, CAL.—Bids are asked until Jan. 19 for erecting quarters for women nurses at the Pacific branch of the National Home for Disabled Volunteer Soldiers. F. H. Upham, Major and Treas.

STOCKTON, CAL.—The Farmers' Union & Milling Co.'s warehouse, No. 5, was burned Jan. 4, causing a total loss of about $500,000.

WATER-WORKS.

BOSTON, MASS.—Bids are asked until Jan. 13 for the purchase of $2,000,000 of 3½% gold bonds of the Metropolitan water loan. E. P. Shaw, Treas. and Receiver Gen.

ALBANY, N. Y.—Bids are asked until Feb. 15 for constructing water filtration plant, contract No. 3, consisting of eight covered masonry filters, etc., as stated in our advertising columns. Geo. I. Bailey, Supt. Water-Works.

LITTLE VALLEY, N. Y.—J. J. Volk, Chm. Com., Dayton, N. Y., writes us that nothing will be done in regard to the works for the county home until the spring. The supply will be brought by gravity a distance of 1¾ miles.

MARATHON, N. Y.—Press reports state that James Monahan, Sharon Springs, N. Y., who was awarded the contract in September to build the works, at $10,718, has given up the work. It is said that the town authorities will continue the work. Engrs., Allen, Farrington & Co., Kirk Bldg., Syracuse, N. Y.

OCEAN GROVE, N. J.—The executive committee of the Ocean Grove Camp-Meeting Association has decided to provide a duplicate compressor and additional pumping machinery for the works.

BRADDOCK, PA.—The council's committee is said to have approved plans for the new reservoir in North Braddock, work on which will be begun in the spring. Estimated cost, $100,000. Wm. Howatt, Supt. Pub. Wks.

CAMBRIDGE, PA.—At the February election this place will probably vote on the question of issuing $20,000 in bonds for works.

PARNASSUS, PA.—This place will vote at the February election on the question of issuing $27,000 in bonds for works and a sewerage system. There will be required about 10 miles of pipe. Engr., S. A. Taylor, 339 Fifth Ave., Pittsburg; W. J. Stewart, Pres. Council.

ROWZERSVILLE, PA.—Press reports state that it has been decided to construct works. J. J. Plank, of Gettysburg, Pa., and P. Rowzer are interested.

LAUREL, MD.—At a recent meeting of the citizens a committee of three, with the Mayor as chairman, was appointed to report on the question of providing works for the town. The committee is to report the terms on which water can be secured from any corporation now in existence, or what arrangements may be made with capitalists to provide works. Chas. Phelps, Mayor.

ALTON, ILL.—Press reports state as follows: The Steckner Contracting Co., Chicago, has submitted a proposition to the commission which, if details can be satisfactorilly arranged, promises a solution of the water-works question. This firm proposes to build the plant, the city agreeing to pay interest and assume gradual ownership by stated payments of the capital invested. In order to perfect this plan the Mayor has decided to extend the time given to the commission to work out the problem.

SPRINGFIELD, ILL.—R. T. Hickway, Cy. Clk., writes us that extensions to the works will be built. Des. Engr., F. H. Hamilton; Supt., W. H. Southwick.

BRISTOL, VA.—The committee, it is reported, will recommend the sinking of a test well for a water supply; estimated cost, $10,000. H. G. Peters, of the committee, may be addressed.

NORFOLK, VA.—The Hydraulic Construction Co., 1 Broadway, New York, has submitted a proposition to furnish this city with water. Other propositions have been received from W. B. Brooks, Jr., of the Dismal Swamp Co., and from the Portsmouth & Suffolk Water Co.

ATLANTA, GA.—Local papers state that Mayor Collier will soon call an election to vote on the question of issuing $200,000 in bonds for improving and extending the works. A two-thirds majority will be required. Supt., Park Woodward.

DUBLIN, GA.—J. H. McKenzie, Augusta, Ga., is said to have been awarded the contract for erecting the water-tower and tank for the works at $3,890. The tower will be 144 ft. high and will support a tank of 60,000 gallons capacity. K. H. Walker, Chm. Com.

CLEARWATER HARBOR, FLA.—H. B. Plant, New York, has been granted a 50-year franchise for supplying this place with water. J. W. Drew, Mayor; J. H. Brown, Chm. Com.; Wm. Matchett, Town Clk.

JACKSONVILLE, FLA.—Bids are asked until Jan. 18 for furnishing, f. o. b. Jacksonville, a supply of galvanized fitting for wrought-iron pipe and also 200 ⅝-in. water meters. D. F. Dillon, Chn. Bd. Trustees.

CLINTON, KY.—The council has authorized an issue of bonds for the proposed works of the Clinton Water & Light Co. The company will use the bonds as collateral in securing a loan, the proceeds of which will be used in paying for the works. Engrs., Sanders & Porter, Columbia Bldg., Louisville, Ky.; Pres., R. L. Johnson.

CAMBRIDGE, O.—This place is reported to have again voted, Dec. 27, against issuing $6,600 in bonds for covering the works. O. M. Hoge, Cy. Engr.

CINCINNATI, O.—Local papers state that the engineers have completed plans and specifications for the proposed intake plant and tunnel for the new works, and that bids will soon be asked. This section of the works will cost about $400,000. Ch. Engr., G. Bouscaren, Cincinnati.

ELMWOOD PLACE, O.—The committee is considering a plan for securing a water supply from Carthage; estimated cost, $15,000. J. H. Bart, Mayor.

MONROEVILLE, O.—Bids are asked until Jan. 26 for furnishing the material and for constructing works, as stated in our advertising columns. Des. Engr., Paul Voorhees, Guaranty Bldg., Buffalo, N. Y.; Pres. Comrs., Joseph Hiltz; Secy., J. F. Henninger.

QUINCY, O.—This place has decided not to build works or grant a franchise at this time. N. P. Sevaup, Clk.

SYCAMORE, O.—An election will probably be held Jan. 17 to vote on the question of works and an electric light plant. H. W. Hawkins, Clk.

MINNEAPOLIS, MINN.—Bids are asked by the water department until Jan. 14 for furnishing cast-iron water pipe for the season of 1898.

FORT ASSINIBOINE, MONT.—Bids are asked until Jan. 26 for constructing a 50-ft. wooden trestle for water tank at this post. D. D. Wheeler, Ch. Q. M., St. Paul, Minn.

BEATRICE, NEB.—Willis Ball, Cy. Engr., writes us that the city has two 2,000,000-gallon Holly pumps. The pumping capacity of the works will have to be about doubled. Settling basins and filtration beds are to be built, plans for which are not yet completed. It is not proposed to do all the work at once, but to complete the plans and make a beginning. Population, 1,500. C. Grant is interested.

OMAHA, NEB.—The council committee is considering plans for the water supply for the Trans-Mississippi and International Exposition to be held during the summer; estimated cost, $29,000. Andrew Rosewater, Cy. Engr.

GREENEVILLE, S. C.—Bids are asked until Jan. 15 for constructing a 40,000,000-gallon reservoir near Greenville,

as described in our advertising columns. J. W. Ledoux, Ch. Engr. American Pipe Mfg. Co., 112 North Broad St., Philadelphia.

ELKPOINT, S. DAK.—Bids are asked until Feb. 5 for constructing works, for which $12,000 in bonds were voted Dec. 18. H. D. Moore, Cy. Clk., writes us that up to Dec. 29 no plans or specifications for the works had been prepared. Population, 1,400.

BATESVILLE, ARK.—The council will soon make arrangements for the proposed works and electric light plant to cost about $22,000, according to reports.

AUSTIN, TEX.—Bids are asked until Jan. 15 for the purchase of $15,000 of 5% water and light bonds. J. D. McCall, Mayor.

WALLA WALLA, WASH.—The surgeon-general of the army has recommended changes in the water supply of Fort Walla Walla.

PORT LAVACA, TEX.—The question of securing a water supply is being considered, according to reports.

RED BLUFF, CAL.—It is reported that an election will soon be held to vote on the question of municipal works. Population, 3,000. W. L. Bransford, Pres. Trustees; J. T. Teass, Town Clk.

MONTREAL, QUE.—L. J. O. Laforest, Supt. Water-Wks., has submitted a report in which he recommends a new engine, boiler, etc., for the works, to cost about $70,000.

IRRIGATION.

WINCHESTER, CAL.—Bids are asked until Jan. 8 for the purchase of $10,000 of irrigation bonds. J. A. McDiarmid, Pres. Jacinto and Pleasant Valley Irrigation District.

PHOENIX, ARIZ.—The Arizona Improvement Co. is about to pass into the hands of a receiver, according to reports.

PRICE, UTAH.—It is reported that a company will be organized to extend the Spring Glen Canal Co.'s canal for irrigating about 80,000 acres in Clarks Valley.

NEW COMPANIES.—Rainier Flume & Water Co., Salem, Ore.; $2,000; to build a flume to convey a water supply for domestic and irrigation purposes; Dean Blanchard, W. J. Deitz, Joseph Silver.

Electric Water Co., Los Angeles, Cal.; $500,000; to furnish water for irrigation; Wm. S. Porter, J. W. McKinley, Wm. A. Kolmer, M. S. Graff, Los Angeles, and N. W. Bell, Pasadena.

Interstate Canal & Power Co., Oxford, Idaho; $80,000; to irrigate about 250,000 acres; George C. Parkinson, of the Oneida stake; D. D. Sullivan, Grace; F. H. Reddish, Lund; Chester Call, Chesterfield; W. A. Hyde, Downey; W. F. Fisher, Oxford; S. B. Woolley, Dayton; Hyrum Jensen, Weston; B. F. Bingham, Trenton.

Wingfield Ditch Co., Portersville, Cal.; $10,000; to conduct an irrigation system; W. M. Young, Portersville; T. J. King, H. P. Peterson, Deer Creek.

SEWERAGE.

DANVERS, MASS.—The directors of the Danvers Lunatic Hospital are considering plans for the drainage, etc., of the hospital and grounds. The last legislature appropriated $10,000 for the work, but it will be necessary to secure $5,000 more. The plans include a sewage disposal farm. Dr. Page may be addressed.

DEPEW, N. Y.—J. P. Coan, Sewer Comr., informs us that the following bids were received Jan. 4 for constructing a main sewer:

John Marsden, Utica, N. Y.	$55,000
William H. Kintz, Buffalo, N. Y.	55,228
Leiphardt & Winterhalter, Detroit, Mich.	53,661
Cronin & O'Herron, Buffalo, N. Y.	52,500
John Miller, Buffalo, N. Y.	52,996

NIAGARA FALLS, N. Y.—Bids were received Dec. 30 for constructing sewers in four streets, at a cost of $17,000.——Plans and estimates for extensions, to cost about $40,000, have been submitted. W. W. Read, Cy. Engr.

TARRYTOWN, N. Y.—The state board of health has approved plans for a sewerage system for this village.

AVALON, PA.—At the election in February the citizens will vote on the question of issuing $26,000 in bonds for a system. Engr., C. A. Cooper, Pittsburg, Pa.

ERIE, PA.—Bids are asked until Jan. 6 for constructing 15 and 12-in. pipe sewers in two streets. B. E. Briggs, Cy. Engr.

PARNASSUS, PA.—At the February election the people will vote on the question of issuing $27,000 in bonds for a system and water-works. Engr., S. A. Taylor, 339 Fifth Ave., Pittsburg; Pres. Council, W. J. Stewart.

PITTSBURG, PA.—It is proposed to construct 15 to 9-in. pipe sewers in a number of streets. H. P. Ford, Mayor.

SCRANTON, PA.—Local papers state the council will soon consider an ordinance authorizing the construction of a system for the West Side, to cost $210,000. Alderman Regan may be addressed.

WILLIAMSPORT, PA.—Geo. D. Snyder, Cy. Engr., writes us that the construction of the Grafius Run sewer is being considered by councils. It will include 850 ft. of 18½ to 6-ft. concrete and iron sewer; average cut, 10 ft.; estimated cost, $22,000.

MARTINS FERRY, W. VA.—T. J. Stringer submitted the lowest bid, Dec. 23, for constructing sewers in district No. 5 at $5,193. The only other bid was that from Archer & Davis, Bellaire, O., at $5,236.

BELLEFONTAINE, O.—A committee is said to have been appointed to visit a number of Ohio towns to inspect their sewerage systems with a view to having a system for this place.

COLUMBUS, O.—The mayor has signed the ordinance appropriating $26,000 for the purchase of land for the proposed sewage disposal beds and for equipping same. J. M. Doane, Cy. Clk.; F. E. Jacobs, Dir. Pub. Improvements.

TOLEDO, O.—Bids are asked until Jan. 31 for constructing a 5-ft. cylindrical brick sewer in Ash St. L. P. Harris, Cy. Clk.

INDIANAPOLIS, IND.—Bids are asked until Jan. 10 for constructing a local sewer in Williams St. M. A. Downing, Pres. Bd. Pub. Wks.

DAVENPORT, IA.—Surveys for the proposed extension of the system in district No. 1, to consist of about 23,000 ft., have been completed by Thos. Murray, Cy. Engr.

SIOUX FALLS, S. DAK.—S. B. Howe, Cy. Engr., writes us that the construction of 1,200 ft. of 42 to 28-in. storm sewer, to cost $4,000, is projected. Des. Engr., Rudolph Hering, 100 William St., New York.

HOUSTON, TEX.—Bids will soon be asked for constructing 2,500 ft. of 18 to 8-in. pipe sewers, 6 manholes and 20 catchbasins in Houston Ave. and Edwards St.——It is also proposed to construct 4,640 ft. of 36 to 27-in. brick and 1,000 ft. of 24-in. pipe sewers in Austin St.; also 17 manholes and 64 catchbasins.——In five other streets it is also proposed to construct about 18,800 ft. of 24 to 8-in. pipe sewers, 4 catchbasins, 1 flush tank and 5 manholes.——W. E. Humphryville has the contract for constructing 5,400 ft. of 24 and 18-in. pipe sewers in St. Charles and Buffalo Sts. L. A. Gueringer, Cy. Engr.; Wm. Bradburn, Asst. Engr.

OTTAWA, ONT.—Robt. Surtees, Cy. Engr., writes us that the citizens will not vote on the drainage by-law until the end of January.

BERLIN, GERMANY.—Press reports state that the city authorities will spend about $4,000,000 in extending and improving the system. About $17,200,000 will be spent on general improvements.

GARBAGE DISPOSAL—STREET CLEANING

NEW YORK, N. Y.—The following were the only bids received by the department of street cleaning Dec. 31 for various work: For preparing for and constructing a conveyor for the dump at the foot of West 131st St., Link Belt Engineering Co., 49 Dey St., $7,500; for a conveyor for the dump at the foot of West 131st St, John A. Mead Co., 11 Broadway, $7,000; for a refuse disposal plant in the yard of the department of street cleaning, Nos. 408, 410, 412, 414, 416 East 48th St, Post & McCord, United Charities Bldg., $21,900.——Acker & Bloom, New York, submitted the lowest bid, Dec. 31, to the department of charities, 66 Third Ave., for materials and work required for stone and brick building, together with apparatus for the destruction of garbage, Blackwell's Island, at $6,324.

MILWAUKEE, WIS.—The contract for collecting and disposing of the garbage for five years will probably be let to Cooper & Burke at $60,000 a year.——Health Commissioner Kempster is urging the council to set aside $125,000 for a municipal garbage disposal plant.

ST. LOUIS, MO.—Local papers state that bids for a 3-year garbage collection contract will soon be asked. The contract with Col. Edward Butler will expire in June, but that with the owners of the reduction works will not expire for three years. Health Commissioner Starkloff may be addressed.

STREETS AND ROADS.

BROOKLYN, N. Y.—J. F. Maley has been awarded the contract, at $16,573, for improving Ocean Ave., from Ave. U to Bay Ave.; also the contract, at $9,772, for improving portions of Bay Ave., Elm Ave., Coney Island Ave. and 60th St.

ENGLEWOOD, N. J.—Bids are asked until Jan. 10 for grading, macadamizing, etc., a portion of Phelps Ave. Wm. Cass, Cy. Surv.; Samuel M. Riker, Secy. Comrs. Assessment.

ILION, N. Y.—We are informed that this town has voted to raise $3,000 in three annual installments of $1,000 each for the purchase of a steam road roller. Geo. O. Rasbach, Village Clk.

LITTLE FALLS, N. Y.—S. E. Babcock, Cy. Engr., has recommended paving the principal business streets of this city with brick.

NEW YORK, N. Y.—Bids are asked by the department of public works until Jan. 12 for regulating and paving with asphalt block portions of 81st St. and 84th St.; also for asphalt paving in 76th St., from West End Ave. to Riverside Drive.

PELHAM, N. Y.—L. B. Nutting, Village Clk., informs us that a contract has been awarded to Smith Bros., North Pelham, for grading and macadamizing Wolfs Lane and Third St.; also that $7,500 of street bonds have been sold to Street, Wykes & Co., 44 Wall St., New York.

NIAGARA FALLS, N. Y.—No steps have as yet been taken toward any paving work for the coming season. It is probable, however, that several streets will be paved, but the chances are that no action will be taken in the matter before March or April. W. W. Read, Cy. Engr.

ROCHESTER, N. Y.—The following bids were received Dec. 27 for asphalt paving in West Main St. and in Willard Park: West Main St., Rochester Vulcanite Pavement Co., $26,554; Utica Paving Co., $26,897; Rock Asphalt Co., $28,985; Warren-Scharff Paving Co., $31,304. Willard Park, Rock Asphalt Paving Co., $3,531; Rochester Vulcanite Pavement Co., $3,635; Utica Paving Co., $3,678.

ATLANTIC CITY, N. J.—A resolution was adopted last week by the council, according to reports, for paving all the principal streets of the city, which are now surfaced with gravel.

RAHWAY, N. J.—It is reported that a road three miles long, from Rahway to Cateret, will be macadamized.

PITTSBURG, PA.—Reports state that the council has passed resolutions authorizing the appropriation of $10,000 for the repaving of South 16th St. and Sarah St. Petitions have been presented for paving, etc., in South 23d St., for sewerage in Steuben St. and grading Boquet St. Wm. Brown, Cy. Engr.

MEADVILLE, PA.—David & Caldwell have been awarded a contract to pave West Chestnut St. with asphalt block from the Erie Depot to French Creek, at a cost of about $2,300. Whitney Braymer, Mayor.——We are informed that Randolph St. will probably be paved in the spring with brick for a distance of 4,000 ft.; estimated cost, $17,500, exclusive of a 7-ft. strip to be paved by the street railway company; also that resolutions have been passed for 3,800 lin. ft. of brick paving in Main St. and 500 ft. of Water St. W. A. Doane, Cy. Engr.

SEWICKLEY, PA.—J. A. Knox, Clk. Council, informs us that there has been no organization as yet for the improvement of the Beaver Road. Address Wm. Dickson, Sewickley, Pa.

WILKINSBURG, PA.—Reports state that the council has authorized the issuance of $15,000 in bonds for street work, the contract for which has been awarded to Ott Bros., Pittsburg.

LAUREL, MD.—The citizens committee, at a recent meeting decided to request the legislature for permission to lay brick sidewalks. E. M. Flannery, Secy.; Chas. Phelps, Mayor.

SAVANNAH, GA.—The board of aldermen has authorized the appropriation of $50,000 for paving portions of Market, Julian, Drayton, Bull and Margaret Sts., with brick or asphalt. Alderman Davis may be addressed.

CINCINNATI O.—Bids are asked until Jan. 12 for grading, macadamizing, etc., in Delta Ave., from Linwood Road to Observatory Ave., and until Jan. 26 for repairing and maintaining for 5 years, Eighth St., from Broadway to Vine St.; also for grading, asphalt paving, etc., in Bates Ave., from Colerain Ave. to Spring Grove Ave. Aug. Herrmann, Pres. Bd. Administration; A. P. Butterfield, Clk.

CLEVELAND, O.—C. W. Pratt, Engr., and Secretary Bangs, of the Park Board, have submitted plans for the construction of the proposed boulevard, at an estimated cost of $700,000.

BEDFORD, IND.—Bids are asked by the county commissioners until Jan. 18 for constructing about 120,000 ft. of roads in Spice Valley Township, five divisions. John B. Malott, County Audr., Bedford.

TOLEDO, O.—Bids are asked until Jan. 17 for grading, draining, culverts, etc., in Wayne St., from Dale St. to Western Ave. and in Detroit Ave., from Delaware Ave. to Central Ave. L. P. Harris, Cy. Clk.

COLUMBUS, IND.—Bids are asked by Wm. J. Beck, Mayor, and Chn. Paving Com., until Jan. 31 for about 14,000 sq. yds. of asphalt pavement and about 5,500 lin. ft. of cement curbing, etc., in Washington, Fourth and Fifth Sts., as stated in our advertising columns. W. H. Rights, Cy. Engr.; J. W. Suverkrufit, Clk.

FORT WAYNE, IND.—Reports state that F. M. Kaag is circulating a petition, which will be presented to the board of works for paving North Cass St. with asphalt, from Wells to Sixth St.

DETROIT, MICH.—The street commissioners have recommended paving portions of 12 streets with brick at an estimated cost of $146,437, with asphalt, to cost $175,284, and with cedar on concrete, at a cost of $198,556.

HOUSTON, TEX.—The street committee is contemplating paving about 93,204 sq. yds. in eight streets.——R. C. Storri has the contract for paving 19,000 sq. yds. of Washington St. with brick. A. T. Lucas, 19,000 sq. yds. in Houston Ave., and 11,700 yds. in McKee, Conti and Odin Aves., the Ayers Asphalt Paving Co., 36,000 sq. yds. of asphalt in Willow and San Jacinto Sts., and R. C. Storri, 11,300 sq. yds. of brick in Main St., all on 6-in. concrete foundation. L. A. Gueringer, Cy. Engr.

OMAHA, NEB.—Bids are asked until Jan. 14 for paving with brick, stone, asphaltum or macadam portions of Wirt St., 26th Ave., 25th St., Dodge St. and Patrick Ave., and for constructing sidewalks during 1898. Andrew Rosewater, Chn. Bd. Pub. Wks.; Wm. Coburn, Secy.

MANUFACTURING PLANTS.

PROVIDENCE, R. I.—The Berlin Iron Bridge Co., East Berlin, Conn., has been awarded the contract for constructing a brick and metal fireproof boiler house for the Providence Worsted Mill.

FALLS VILLAGE, CONN.—Press reports state that J. Pierpont Morgan and Thos. A. Edison will construct a number of ore separators on the Housatonic River near this village.

NORWICH, CONN.—Reports state that a syndicate has bought the Norwich Woolen Co.'s mills and will reopen them for the manufacture of textile fabrics.

BRIDGEPORT, CONN.—It is reported that the Cornwall & Patterson Mfg. Co. is constructing a new factory, 292 × 60 ft., and will install a 100-HP. engine and a 125-HP. boiler.

BAYONNE, N. J.—Reports state that the Pacific Coast Borax Co.'s new borax refinery at this place will cost about $300,000, and will be of iron and concrete, four stories high and 200 × 250 ft. It will contain three 100-HP boilers and two 150-HP. engines, crystallizing vats, evaporating pans, screens, grinding mills, etc. Pres., F. M. Smith, 185 Water St., New York, N. Y.

HADDONFIELD, N. J.—The Star Milk Cooler Co. is constructing a new building for its works, and will need considerable new line and counter shafting. Secy., S. M. Huelings.

WYANTSKILL, N. Y.—The Troy Knitting Co. and the Albia Land Co. have been incorporated, with capital stocks of $100,000 and $10,000 respectively. The former company has purchased the old Wyantskill knitting mill and will equip it with new machinery preparatory to putting it into operation. Among those interested in both companies are: Thomas Breslin, Chas. M. Kavanaugh, Wm. C. Geer and Jas. F. Cowell.

MARIETTA, PA.—P. W. Bossart, Mgr., Pennsylvania Electric Co., informs us that this company, recently incorporated, with a capital stock of $25,000, intends to manufacture telephones as a specialty.

HARRISBURG, PA.—It is reported that George L. Sellers has been awarded the contract for the erection of a new hosiery mill at this place which will give employment to about 200 hands.

SAYRE, PA.—Bids are asked by W. T. Goodnow, Lockhart Bldg., Sayre, until Jan. 6, for furnishing materials and labor required in the construction of a 2-story brick factory building, 50 × 150 ft., near the tracks of the Lehigh Valley R. R., for the Collins Pneumatic Hub & Wheel Works.

DAWSON, GA.—Reports state that A. J. Baldwin & Co. contemplate the erection of a new mill for the manufacture of cotton rope, etc.

CHATTANOOGA, TENN.—The Richmond Hosiery Mills will soon erect a new 3-story building, 50 × 200 ft. Mgr., G. Andrews, Jr.

CINCINNATI, O.—The Bullock Mfg. Co., manufacturers of motors and generators, informs us that the plans are not yet fully completed for its new plant to be established in this city. It is expected to have one main building, 100 × 300 ft., with several additional buildings.

FOWLER, IND.—E. H. Hall, Cy. Attorney, informs us that the people of this place are considering the advisability of erecting an ice plant, and that some propose the building of the same in the spring.

MILWAUKEE, WIS.—The Chicago, Milwaukee & St. Paul Ry. Co. is making improvements at its West Milwaukee shops at a cost of about $50,000, including an addition to the freight car erecting shop, to be 225 × 104 ft. O. Bates, Supt. Bldgs., Chicago, Ill.

CROCKETT, TEX.—Press reports state that the Shivers Bros., of Crockett, contemplate the establishment of a hosiery knitting mill, and are now making investigations regarding the necessary equipment.

PUEBLO, COLO.—It is understood that the Colorado Fuel & Iron Co. will rebuild its steel works in this city, and introduce many automatic appliances and other improvements; estimated cost, $750,000.

OGDEN, UTAH.—E. H. Dyer & Co., of Cleveland, O., have been awarded the contract by David Eccles and Joseph Clark of Ogden, for the construction of a beet sugar factory at Ogden, which will have a daily capacity of 700 tons. The plant will represent an expenditure of about $700,000.

GAS PLANTS.

BUFFALO, N. Y.—Contracts have been awarded the Carnegie Steel Works, Pittsburg, Pa., for constructing gas holders for the People's Gas Light & Coke Co., Buffalo, to have a capacity of about 2,000,000 cu. ft., which will be located near Tonawander St.

NEW COMPANIES.—Penn Petroleum Co., Corapolis, Pa.; $25,000, with $2,500 paid in; to manufacture petroleum; Chas. G. Barkwill, Treas., Cleveland, O.

Shafer Acetylene Gas Generator Co., Terre Haute, Ind.;

$1,000; Isaac Frechheimer, Arthur F. Shafer, Wm. C. Nack, Austin D. Houghton.

Monarch Gas Co., Winchester, Ind.: $1,000.

Elliott Farm Oil Co., Parkersburg, W. Va.; $100,000, with $50 paid in; to produce oil and gas and boring for the same; J. S. Camden, T. W. Jackson, J. W. Walfe, Chas. S. Portr, Levin Smith, Parkersburg.

Crystal Gas Co., Newark, N. J.; $10,000, with $1,000 paid in; to manufacture gas for heating and lighting; J. Bayard Kirkpatrick, John P. Manning, Newark; Jos. St. M. Callahan, Irvington.

MISCELLANEOUS CONTRACTS.

FIRE ENGINE.—Scranton, Pa.—Bids are asked until Jan. 6 for furnishing a third size steam fire engine. M. T. Laville, Cy. Clk.

REFUNDING BONDS.—Los Angeles, Cal.—Bids are asked by the city clerk for the purchase of $260,000 of refunding bonds, according to reports.

PIPE MAIL SYSTEM.—New York, N. Y.—The Tubular Dispatch Co. has been granted permits to extend its pipe system in this city for the U. S. mail.

SEA WALL.—Boston, Mass.—Bids are asked until Jan. 12 for constructing a sea wall on Dorchester Ave. Extension; bond, $5,000. Wm. Jackson, Cy. Engr.

BREAKWATER.—San Pedro, Cal.—R. D. Sepulveda is reported to have let a contract for building a 400-ft. breakwater at White Point to A. Haller & Co.

EXTENDING PIER.—New York, N. Y.—The bids that were to be opened by the dock department, Pier A, for extending the pier at the foot of West 129th St. have been returned, and new bids will be asked.

LOCK, DAMS, ETC.—Yamhill River, Ore.—Bids are asked until Feb. 10 for constructing lock, dam, etc., in the Yamhill River, Ore., as stated in our advertising columns. Capt. W. L. Fisk, U. S. Engr., Portland, Ore.

PARK.—Atlanta, Ga.—Plans are being considered for laying out a park on the north side of the city. Paul D. Romare, Pres. First National Bank, is interested.

FERRY STEAMERS.—Birkenhead, England.—Bids are asked until Feb. 1 for constructing two steel twin screw ferry steamers. Alfred Gill, Town Clk., Birkenhead.

BULKHEAD AND DREDGING.—Ellis Island, N. Y.—Bids are asked by the Treasury Department, Washington, D. C., until Jan. 19 for dredging and filling for a crib bulkhead at the U. S. Immigration Station, Ellis Island, N. Y.

LEVEE WORK.—New Orleans, La.—It is reported that work will soon be commenced on the five levees to be constructed by R. M. Quigley & Co., who received the contract Dec. 27 from the Pontchartrain levee board.

LEVEE WORK.—Greenville, Miss.—Bids are asked until Jan. 10 for constructing a levee near Honochitto Landing, Miss., the work to include 100,000 cu. yds. W. E. Montgomery, Secy. and Treas., Comrs., Greenville.

DAM.—Minneapolis, Minn.—Reports state that Pike & Cook have been awarded the contract by W. W. Eastman to construct 300 ft. of the new dam in the Mississippi River below the Pillsbury dam, which will develop about 4,000 HP.

SEA WALL.—Tompkinsville (S. I.), N. Y.—Bids are asked until Jan. 15 for constructing a sea wall at the General Lighthouse Depot, S. I., for which there is an appropriation of $24,000, as stated in our advertising columns. Lt.-Col. D. P. Heap, U. S. Engr., Tompkinsville.

LEVEE WORK.—Alexandria, La.—The board of commissioners of the Red River district received bids Jan. 1 for constructing about 220,000 cu. yds. of levee work on bayou Des Glaizes. Work will be begun about Feb. 1. Pres., J. G. White; State Engr., H. B. Richardson.

CANAL.—Maple Rapids, Mich.—The people of this place and Grand Rapids are considering the construction of a canal between the two places for the purpose of transportation. Subscriptions are being received for a preliminary survey. Ex-Senator Mudge, Maple Rapids, may be addressed.

CONDUCTORS.—New York, N. Y.—The following bids for placing electrical conductors underground were opened by Fire Department Dec. 31: Safety Insulated Wire & Cable Co., 225 W. 28th St., $35,294, $4,034, $4,388; total, $43,716; and Standard Underground Cable Co., 18 Cortlandt St., $37,419, $3,116, $3,661; total, $44,196.

REMOVING WRECK.—Norfolk, Va.—The following bids were received Dec. 14 for removing the wreck of the schooner "Walter Armington" from the Chesapeake Bay: Henry Seymour, Norfolk, Va., $4,000; Wm. Virden & John C. Ross, Lewes, Del. (accepted), $2,900; W. H. French, Norfolk, Va., $3,950; D. S. Baum, Norfolk, Va., $3,870.

GRADING AND DRAINING.—Boston, Mass.—Bids are asked by the Metropolitan Park Commission until Jan. 24 for grading and draining on the Charles River Reservation from Western Ave. to North Harvard St., estimated to contain 30,000 cu. yds. of excavation, 112,000 cu. yds. of filling, 2,500 lin. ft. of spruce piles, 370,000 ft. B. M. of timber and 17,500 ft. of vitrified pipe drain. Wm. T. Pierce, Engr.

LAKE.—Dubuque, Ia.—T. T. Duffy, Mayor, writes us that the 33-year extension of the Dubuque St. Ry. Co.'s charter, making 50 years in all, granted a few months ago, provides for the construction of a lake about two miles long by one mile wide. It will be made by the daming of the Maquoketa River at a point five miles from the present terminus of the car line. This lake is to be a part of a summer resort.

DAM.—Glens Falls, N. Y.—The Indian River Co. proposes to begin the construction of its proposed dam for its storage reservoir dam on the Hudson River, at Indian Lake, for manufacturing purposes. Capital stock, $125,000. E. L. Ashley, Glens Falls; John H. Derby, of the Howland Paper Co., Sandy Hill, N. Y., and G. N. Furman, of the Hudson River Power Transmission Co., Mechanicsville, N. Y., are among those interested.

REMOVING WRECK.—Wilmington, Del.—The following bids were received by Maj. Wm. F. Smith, U. S. Agent, Wilmington, Del., for removing the wreck of the schooner "Del May," the work to be begun within 10 days and completed in 30 days:

James C. Arthur, Philadelphia, Pa.	$850
Louis E. Brown, Baltimore, Md. (defective)	700
Henry Seymon, Norfolk, Va.	2,000
J. T. Gibbs, for Wm. H. French, Norfolk	1,400

CONTRACT PRICES.

ASPHALT PAVING.—Wabash, Ind.—The Barber Asphalt Paving Co., 11 Broadway, New York, and Detroit, Mich., has been awarded the contract for 10,500 sq. yds. of paving, as follows: Asphalt, $1.95 a sq. yd.; 75 cts. a lin. ft. of combined curb and gutter, 6-in. top; 85 cts. a lin. ft. of combined curb and gutter, 12-in. top; $10 for catchbasin inlets, each; $3 for resetting manhole covers, each; 30 cts. furnishing and laying 10-in. sewer pipe, a ft.; 5 cts. a sq. yd. a year for maintenance after first 5 years. Robert P. Woods, Cy. Engr.

BRICK PAVING, GRADING AND CURBING.—Waukesha, Wis.—The following bids were received Dec. 14 for improving Main St.; Wm. Powrie, Cy. Engr., and Pres. Bd. Pub. Wks.; contract awarded to J. F. Bretz & Son for Galesburg brick:

Bids Received at Waukesha, Wis., Dec. 14, for Brick Paving, Grading and Curbing.

Quantities.	Vogt Fuel & Construction Co., Milwaukee, Wis.	Cape & Cahill, Sons & Racine, Wis.	August Dieman, Waukesha, Wis.	D. A. Thatcher, Chicago, Ill.	John C. Jones, Racine, Wis.	Smith, Moss & Brown, Chicago, Ill.	Herman Holmser, Milwaukee, Wis.	R. J. Hickey, Milwaukee, Wis.	J. F. Bretz & Son, Springfield, Ill.	Richert Construction Co., Racine, Wis.
Excavation ..... 6,577 cu. yds.	$0.27	$0.26	$0.22	$0.21	$0.22	$0.22	$0.27	$0.25	$0.20	$0.25
Galesburg pvg brk 15,430 sq. yds.	.....	1.34½	1.32½	1.32½	1.38½	1.33	1.35½	1.31	1.30	1.35
Barr clay	1.30	1.26	1.22	....	....	1.26	....	....	1.26	....
Clinton brick	1.30	1.26	1.29	....	1.33½	1.30	1.31	....	1.20	1.29
New curbing ..... 6,185 lin. ft..	.45	.42	.41	.43	.42	.43	.47	.40	.43	.45
Protection curb ... 1,000 " "	.20	.24	.20	.31	.20	.25	.24	.20	.23	.23
Curb reset ..... 200 " "	.10	.10	.10	.10	.10	.15	.10	.10	.12	.10
Catchbasin covers.. 5 each...	9.00	7.00	9.00	8.00	5.00	8.00	10.00	9.00	9.50	9.50
" complete 5 " ...	12.00	17.00	25.00	20.00	24.00	30.00	28.00	20.00	10.00	30.00
" rebuilt... 3 " ...	5.00	10.00	10.00	10.00	12.00	6.00	15.00	10.00	8.00	8.00
Lamphole covers.. 2 " ...	2.00	4.00	2.00	2.50	5.00	4.00	3.00	1.50	2.50	2.50
Cast-iron gutters .. 170 ft.....	2.25	1.50	1.95	2.00	1.00	1.50	2.50	2.00	2.00	2.25
Cast-iron gutter bridges.....	.30	.40	.41	.40	5.00	.60	.60	.45	.50	.50

PUBLIC LIGHTING.—New York, N. Y.—The gas commission awarded the following contracts, Dec. 30, for public lighting during 1898: The island of Manhattan is divided up between the Equitable, Standard and Consolidated Gas companies, the Consolidated getting the largest share of the gas lighting in streets. The bids accepted from these companies were: The Equitable, $12 a year for each light; Standard, $13.04½, and the Consolidated, $17.50. The bid of the Consolidated for repairing lampposts, removing and setting was overruled, and made the same as last year. In the 23d Ward of the Borough of the Bronx the Central Union Co. got the contract at $24 a year for each light. The Northern Union Co. got all of the 24th Ward at $28, excepting the western part, near Kingsbridge, where it has no mains. The Yonkers Gas Co. got the lighting there at $28. The New York & New Jersey Globe Gas Lighting Co. received the contract in Woodlawn, Wakefield, East Chester, Riverside Drive, Morningside Ave. and Morningside Park with naphtha, at $22 a year for each light. The Welsbach Street Lighting Co. of America was given the contract to light Central Park with 500 naphtha lamps at $30 a year for each lamp. The electric lighting of the city was awarded as follows: Brush Electric Co., 91 arc lights at 45 cts. a night, and 975 arc lights at 40 cts. Mount Morris Co., 630 arc lights at 40 cts. and 194 arc lights at 45 cts. This company will light the Harlem Speedway. The Manhattan Electric Light Co., 10 arc lights at 50 cts. and 840 arc lights at 40 cts. This company will light Park Ave. under the elevated structure of the New York Central Ry., Harlem, with 100 incandescent electric lights at $22.50 a year for each light. The Harlem Lighting Co., 66 arc lights at 40 cts., and 19 arc lights at 50 cts. Edison Electric Light & Power Co., 524 arc lights at 40 cts., and 363 arc lights at 50 cts. North River Electric Light & Power Co., $1,052 arc lights at 45 cts. Pelham Electric Co., 95 arc lights at 40 cts. The total appropriation is $1,290,300 and the total of all the contracts is $1,396,594.

EXCAVATING AND REFILLING.—Boston, Mass.—W. E. Swan, Ch. Clk. and Secy. Water Comrs., informs us that the following bids were received Dec. 30 for excavating and refilling water pipe trenches in Columbia Road:

Bidder.	2,000 cu. yds. earth excvtn. and refilling. cu. yd.	1,100 cu. yds. rock excvtn. and refilling. cu. yd.	Total.
Quimby & Ferguson	$0.34	$2.90	$3,870
Chas. C. McGrew & Co	.45	2.90	4,090
Burke & Cushing	.75	3.25	5,075
P. & F. E. McCarthy	.53¼	3.44¼	4,851
Daniel E. Lynch	.58	3.00	4,460
H. P. Nawn	.50	2.00	3,200
O'Rourke & Nelson	.50	3.00	4,300
The Italian Labor Supply	.26½	3.00	3,830
T. H. Connolly	.30	2.10	2,910
John H. McCabe	.44	2.75	3,905
Robert L. Barrett & Co	.37	2.24	3,204
John C. Coleman & Son (acptd.).	.55	1.49	2,739
Thomas F. Broderick.....	.35	3.98	5,078

GRADING.—East Lynne, Conn.—C. S. Davis, First Selectman, Niantic, writes us that the following bids were received Dec. 30 for grading sections of certain roads:

Quantities.	Orrin B. Gerton, East Lyme.	N. W. Rogers & J. T. Beckwith, Niantic, Ct.
Rock..... 196 cu. yds.	$1.20	$1.25
Earth... . ..... 1,536 "	0.28½	.32
Gravel... . ..... 705 7-9 lin. ft..	.18	*.06
	$800	$800

*For 1,056 lin. ft. gravelling.

JETTY.—Grays Harbor, Ore.—Capt. Harry Taylor, U. S. Engr., Portland, informs us that the following bids were received Dec. 10 for constructing a jetty at Grays Harbor, Wash., as advertised in Engineering News:

Quantities.	Wakefield & Jacobsen, Portland, Ore.	P. Buchner, Portland, Ore.	Heidmaier & Neu, Chicago, Ill.	Hale & Kern Contract Co., Portland, Ore.
Gage of track	—Narrow.—		—Standard—	
Piles .....310,000 ft.....	$0.11	$0.12	$0.135	$0.11
Lumber .2,470,000 " ...	11.00	15.00	15.00[1]	11.00
Steel rails. 590 tons..	45.00	50.00	37.40[2]	40.00
Irn stir'ps* 100,000 lbs....	.035	.06	.04	.04
Brush. . . 45,000 c. yds.	.75	.85	.75	1.20
Stone:				
Size A ..125,000 tons..	1.16	1.11	.785	1.10
" B ..250,000 " ..	1.16	1.11	.785	1.10
" C ..125,000 " ..	1.16	1.11	.785	1.10
" D .. 70,000 " ..	1.16	1.11	.72	1.10
Total	$786,270	$780,700	$592,621	$769,870

*Iron stirrups and bolts. [1]For 2,700,000 ft. of lumber. [2]$37.40 a ton for 792 tons of 40-lb. rails, all other bids for 30-lb. rails.

ASPHALT PAVING.—Denver, Colo.—The Western Bermudez Asphalt Co., Ltd., T. J. Tully, Mgr. and Secy., submitted the lowest bid, Dec. 27, for asphalt paving in Colfax Ave., from Broadway to York St., at $1.50 a sq. yd.; total, $82,351.

STONE PAVING.—Sioux Falls, S. Dak.—S. B. Howe, Cy. Engr., writes us that Alex. Reid was awarded the contract, Dec. 6, for 1,750 sq. yds. of stone paving, at $1.12 a sq. yd.

(For other Contract Prices see page 8.)

INDUSTRIAL NOTES.

THE LACONIA CAR CO., Laconia, N. H., has a contract for 500 freight cars for the Boston & Maine R. R.

THE MISSOURI CAR & FOUNDRY CO., St. Louis, Mo., has a contract for 100 freight cars for the Vandalia Line.

THE MOUNT VERNON BRIDGE WORKS, Mount Vernon, O., is about to resume operations, according to report.

THE MILTON CAR WORKS, Milton, Pa., will build for the Puento Oil Co. five combination tank and box cars, according to report.

H. K. PORTER & CO., Pittsburg, Pa., has an order from the Cambria Iron Co., Johnstown, Pa., for the building of two railway engines.

THE ST. CHARLES CAR CO., St. Louis, Mo., has an order from the Kansas & Texas Coal Co. for the construction of 50 coal cars.

ARMINGTON & SIMS ENGINE CO., Providence, R. I., has sold its plant to Mr. James M. Scott for $40,000, according to press reports.

THE OHIO FALLS MFG. CO., Jeffersonville, Ind., has a contract from the Pittsburg, Bessemer & Gulf R. R. for 100 box cars, according to report.

THE MICHIGAN-PENINSULAR CAR CO., Detroit, Mich., will build 200 cars for the Columbus, Hocking Valley & Toledo Ry., according to report.

THE MOUNT VERNON CAR CO., Mount Vernon, Ill., has a contract from the Jacksonville & St. Louis Ry. for 50 coal cars, according to report.

THE SAFETY CONDUIT CO. has nearly completed its plant at Rankin, Pa., for the "lorication" of pipes. About 30 skilled workmen will be employed.

THE ST. LOUIS CAR CO., St. Louis, Mo., has an order from the Wichita Ry., Light & Power Co., Wichita, Kan., for the building of 12 closed and 15 open cars.

THE BALDWIN LOCOMOTIVE WORKS, Philadelphia, have an order from the Kansas City, Pittsburg & Gulf R.R. for 15 ten-wheel locomotives; also a contract from the Southern Indiana Ry. for three passenger engines.

THE CARNEGIE STEEL CO. (LIMITED), Pittsburg, Pa., has the contract for the steel work for the Manhattanville Viaduct, New York, 2,044 ft. in length.

RUSSELL & CO., Masillon, O., are reported as about to begin the manufacture of farm machinery, which will necessitates an outlay of over $1,000,000 for new machinery and labor.

THE YOUNGSTOWN CAR MFG. CO., Youngstown, O., has the contract for 28 double hopper-bottom gondola cars, 35 ft. long of 60,000 lbs. capacity, for the Pittsburg & Western Ry.

PLAINFIELD SANITARY CO., Plainfield, N. J., has gone into the hands of a Receiver, Mr. Andrew Love, Sr., according to a press report. The company is licensed to collect garbage in the city of Plainfield.

THE RITER-CONLEY CO., Pittsburg, Pa., is reported to have received an order from the Union Dry Dock Co., Erie, Pa., for a large traveling crane, designed by the Wellman-Leaver Engineering Co., Cleveland, O.

MESSRS. CORBETT & STADLER, Aurora, Ill., manufacturers of water-works supplies, stand-pipes, boilers, etc., have made an assignment to Mr. S. E. Shepardson, according to report. Assets, $40,000; liabilities not given.

THE BARNEY & SMITH CAR CO., Dayton, O., is said to have a contract from the Columbus, Hocking Valley & Toledo Ry. for 150 box cars, and one from the Southern Indiana R. R. for 150 gondola, 50 coal and 25 box cars.

THE F. C. AUSTIN MFG. CO., of Chicago, manufacturing excavating and grading plants and contractors' supplies, sustained a loss of between $80,000 and $100,000 by a fire at its factory on Dec. 29. The insurance on the plant was $90,000.

THE SCHENECTADY LOCOMOTIVE WORKS, Schenectady, N. Y., has a contract from the New York, New Haven & Hartford R. R. Co. for 10 mogul locomotives, and an order from the New England R. R. Co. for one eight-wheel passenger engine.

THE EUCLID MFG. CO., Cincinnati, O., is reported to have purchased 60 acres of land in Blue Island, Ill., and will engage in the manufacture of steel wheels and general agricultural implements. A two-story steel building, 70 × 300 ft., will be erected.

THE BATH IRON WORKS, Bath, Me., has received a contract for what will be, it is said, the largest yacht ever built in the United States. The ownership of the boat is not made known, but it is reported that Gen. Thomas W. Hyde signed the contract for the owners.

THE WILLIAM CRAMP SHIP & ENGINE CO., Philadelphia, has a contract to build two twin-screw steel steamships of 5,000 tons capacity for the New York & Cuba Mail Steamship Co. They will be 360 ft. long, 50 ft. beam and 32 ft. 2 ins. deep, with a draft of 20 ft.

WARNER, STUART & CO., Cleveland, O., are reported to have received an order from Sir Lothian Bell, who is constructing extensive iron furnaces at Cardiff, Wales, for 4,000,000 tons of Mesaba iron ore, to be delivered f. o. b. at the Cardiff dock, at $5.15 a ton. The ore will be smelted by the Nehling process.

CONTRACT PRICES.

PIPE SEWERS.—Shelby, O.—We are informed that the following bids were received Dec. 27 for constructing 3½ miles of pipe sewers, as advertised in Engineering News; a discount of 85½ to 88¾% is made off list on sewer pipe; the contract probably awarded A. H. Gardner of Bucyrus, O.; Engr., J. B. Weddle, Mansfield, O.; D. N. Wherry, Pres. Sewer Com.; W. F. Sounanstine, Clk.:

Bids Received at Shelby, O., Dec. 27, for Constructing Pipe Sewers.

Bidder.	Sewer pipe. 18-in. Material.	Sewer pipe. 18-in. Labor.	Sewer pipe. 12-in. Material.	Sewer pipe. 12-in. Labor.	Excavation, clay cut. Av. 9 ft., 18" line.	Excavation, clay cut. Av. 8 ft., 12" line.	Iron pipe. 18-in., mat'rial, 850 ft.	Iron pipe. 12-in., matr., 450 ft.	Iron pipe. 18-in. Labor.	Iron pipe. 12-in. Labor.	Masonry, 40 perches.	Sheet piling, 90 lin. ft.	Railroad crossings. Big Four.	Railroad crossings. Balt. & O.	Manholes.	Lampholes.	Total.
Cannell & McDowell, Cleveland	$2,212.00	$1,380.00	$783.00	$416.00	$4,485.00	$2,356.00	$1,278.00	$331.00	$288.00	$68.00	$300.00	$45.00	$50.00	$50.00	$1,120.00	$[illegible]	$15,237
D. E. Sullivan, Columbus, O.	3,203.00	1,265.00	1,595.00	693.00	4,025.00	2,079.00	1,660.00	447.00	664.00	195.00	380.00	90.00	75.00	75.00	800.00	42.00	17,288
Adams Bros., Zanesville, O.	2,311.00	854.00	798.00	485.00	3,450.00	1,733.00	1,216.00	352.00	265.00	78.00	320.00	106.00	25.00	25.00	800.00	39.00	12,84
J. W. Hyser, Zanesville, O.	2,269.00	1,025.00	737.00	416.00	4,686.00	1,906.00	1,376.00	400.00	282.00	107.00	288.00	225.00	25.00	25.00	1,056.00	114.00	15,357
James Wildes, Akron, O.	2,446.00	427.00	863.00	208.00	5,625.00	900.00	1,261.00	370.00	398.00	117.00	160.00	135.00	....	50.00	960.00	120.00	14,090
I. W. McConnell, Ithaca, N. Y.	3,386.00	2,068.00	1,197.00	1386.00	4,722.00	2,644.00	1,328.00	390.00	697.00	156.00	.....	.....	50.00	50.00	1,311.00	128.00	20,105
J. N. Kissner, Warsaw, O.	2,327.00	854.00	797.00	554.00	5,520.00	3,327.00	1,527.00	448.00	464.00	136.00	392.00	54.00	225.00	120.00	1,120.00	96.00	17,961
H. M. Mansfield, Indianapolis	2,446.00	1,174.00	863.00	589.00	3,875.00	2,079.00	1,195.00	351.00	232.00	68.00	220.00	94.00	100.00	50.00	928.00	72.00	14,536
Hadley & Duffey, Canton, O.	2,562.00	747.00	970.00	346.00	5,750.00	3,119.00	1,660.00	487.00	326.00	180.00	320.00	90.00	75.00	25.00	1,088.00	60.00	17,865
W. H. Cookman, Niagara Falls	2,997.00	800.00	1,031.00	346.00	4,025.00	1,871.00	1,295.00	380.00	332.00	117.00	240.00	45.00	15.00	15.00	1,120.00	90.00	14,719
Herring & Son, Mansfield, O.	3,949.00	640.00	1,386.00	346.00	4,830.00	2,703.00	1,394.00	409.00	85.00	24.00	260.00	45.00	50.00	25.00	1,248.00	72.00	17,466
Cronnin & O'Herron, Pittsburg	2,401.00	854.00	831.00	277.00	4,600.00	2,357.00	1,195.00	351.00	159.00	47.00	280.00	180.00	.....	.....	935.00	84.00	14,551
A. H. Gardner, Bucyrus, O.	2,311.00	427.00	798.00	139.00	2,760.00	1,753.00	1,195.00	351.00	332.00	97.00	340.00	43.00	10.00	10.00	674.00	36.00	11,429

Approximate lengths and depths of trenching: 18-in. sewer—600 ft., 2 ft.; 200 ft., 3 ft.; 300 ft., 4 ft.; 2,000 ft., 5 ft.; 1,000 ft., 6 ft.; 900 ft., 7 ft.; 600 ft., 8 ft.; 1,300 ft., 9 ft.; 600 ft., 10 ft.; 500 ft., 11 ft.; 300 ft., 12 ft.; 100 ft., 13 ft.; 500 ft., 14 ft.; 900 ft., 15 ft.; 600 ft., 16 ft.; 300 ft. 17 ft.; 850 ft. of 18-in. iron pipe, 5 ft. 12-in. sewer—400 ft., 2 ft.; 300 ft., 3 ft.; 400 ft., 5 ft.; 550 ft., 6 ft.; 2,475 ft., 7 ft.; 300 ft., 8 ft.; 700 ft., 9 ft.; 600 ft., 10 ft.; 100 ft., 11 ft.; 600 ft., 12 ft.; 100 ft., 15 ft.; 300 ft., 16 ft.

BRIDGE.—New York, N. Y.—The department of parks received the following bids Dec. 27 for constructing a bridge over the Harlem River, from 145th St. to 149th St.:

BIDS RECEIVED AT NEW YORK, N. Y., DEC. 27, FOR CONSTRUCTING A BRIDGE ACROSS THE HARLEM RIVER.

Quantities.	Arthur McMullen, 26 Cortlandt St.	J. J. Hopper, 215 West 125th St.	Stephens & O'Rourke, 44 Broadway.	Steward & McDermott, 26 Cortlandt St.	J. Monks & Son, 129 Water St.	Chas. H. Deans, Mills Building.	J. W. Cody & Co., 120 Broadway.	O'Brien, Sheehan & McHale, 258 Broadway.	John C. Rodgers, 26 Cortlandt St.	L. Foley, & Co., Pittsburg, Pa.	I. A. Hopper, 210 West 125th St.
Earth excavation ..... 19,000 cu. yds.	$1.00	$1.00	$0.50	$1.00	$0.594	$0.95	$1.70	$1.00	$1.00	$0.75	$1.00
Rock excavation ..... 330 " "	1.75	1.00	2.00	3.50	2.00	5.00	2.50	1.50	10.00	2.00	2.00
Dredging ..... 12,000 " "	1.00	.49	.50	.35	.50	.35	.38	.35	.35	.50	.30
Earth filling ..... 15,750 " "	.50	.20	.10	.05	.39	.34	.25¼	.25	.10	.50	.25
Gravel filling ..... 500 " "	1.75	3.00	1.00	2.00	1.50	1.20	1.50	1.00	3.00	1.00	1.00
Foundation piles ..... 52,000 lin. ft.	.25	.26	.16	.18	.27	.15	.18	.28	.22	.25	.15
Timber fences ..... 186,000 " "	25.00	30.00	28.00	30.00	21.66	30.00	35.00	30.00	30.00	30.00	30.00
Sheeting (spruce or y. pine) 33,000 " "	30.00	30.00	40.00	60.00	30.00	20.00	30.00	30.00	100.00	30.00	25.00
Bracket spikes and fastenings.. 12,000 lbs.	.03	.02½	.03	.03	.01½	.03	.01½	.02¾	.03	.03	.03
Concrete pavement, No. 2 ..... 11,870 cu. yds.	5.40	6.50	5.00	4.50	6.20	6.00	5.50	7.00	5.25	5.50	5.00
" " " 1 ..... 100 " "	8.00	7.50	9.00	8.00	7.00	6.50	5.50	7.50	8.00	5.50	8.00
" (not pavement) ..... 100 " "	5.00	5.50	5.00	4.10	6.20	5.00	4.50	5.50	5.25	5.50	4.50
Pneumatic caissons ..... 11,300 " "	17.00	30.00	20.00	19.00	13.43	18.75	21.50	18.50	18.00	20.00	30.00
Crib fenders ..... 780,000 " "	.06	.06½	.05½	.05½	.07⅝	.053	.067	.05	.05½	.10	5.00
Yellow pine timber ..... 90 M. ft.	30.00	.04½	42.00	40.00	33.08	45.00	.04½	.04½	40.00	.05	45.00
White oak timber ..... 13 " "	40.00	.04½	40.00	45.00	39.00	45.00	.04½	.05	50.00	.04	45.00
Foundations ..... 3,415 cu. yds.	7.50	16.50	9.00	10.00	12.49	11.00	12.00	10.50	8 50	11.00	11.00
Granite ashlar ..... 8,780 " "	11.00	20.50	11.00	12.50	10.85	12.50	13.00	16.00	11.00	20.00	18.50
Coping, etc. ..... 37,000 cu. ft.	1.00	2.00	1.50	1.60	1.84	1.90	1.95	1.60	1.50	1.75	2.75
Fine cut work ..... 5,500 " "	2.00	3.50	2.00	2.60	2.50	2.50	3.00	2.00	1.75	2.40	2.75
Dimension, uncut ..... 100 " "	1.50	.50	.50	.75	.80	.50	.60	.50	.40	.50	.50
American Portland cement .... 100 bbls.	3.00	2.00	2.00	2.25	1.65	2.10	2.00	2.25	2.00	1.75	2.00
Cement (not Portland) ..... 100 " "	1.25	.90	1.00	1.10	1.65	1.15	1.00	1.00	1.00	1.00	1.00
Rough pointed work ..... 100 sq. ft.	.40	.20	.55	.60	.25	.25	.25	.25	.50	.15	.40
Fine pointed work ..... 100 " "	.60	.30	.60	.70	.40	.35	.45	.35	.60	.30	.50
Four-cut axe ..... 100 " "	.70	.40	.65	.80	.45	.40	.50	.40	.75	.45	.60
Six-cut axe ..... 100 " "	.80	.50	.70	.90	.60	.50	.65	.50	.90	.66	.70
Eight-cut axe ..... 100 " "	1.00	.60	.75	1.10	.80	.60	.65	.60	1.00	.80	.80
Turntable ..... 1,081,000 lbs.	.0271	.03	.0341	.0307	.02¾	.02¾	.0284	.03¾	.03¾	.05½	.03
Draw spans ..... 2,679,000 "	.0271	.02⅛	.02⅛	.0307	.02¾	.02¾	.0284	.02⅝	.02½	.03	.02½
Fixed span ..... 3,892,000 "	.0271	.02⅝	.02⅝	.0307	.02¾	.02¾	.0284	.02¾	.023	.02⅝	.02½
Cast-iron grating ..... 36,000 "	.0271	.031	.02	.03⅝	.02¾	.02¾	.03⅝	.03	.02	.03½	.02
Machinery for draw	16,000.00	16,000.00	15,000.00	16,800.00	16,500.00	17,000.00	21,000.00	16,550.00	15,000.00	18,000.00	17,000.00
Electric plant	10,000.00	10,000.00	10,000.00	10,500.00	10,133.00	10,500.00	11,000.00	10,750.00	8,500.00	12,000.00	11,000.00
Engine rooms	2,000.00	2,000.00	2,000.00	10,480.00	3,000.00	3,000.00	3,000.00	2,500.00	2,000.00	3,000.00	3,000.00
Railing ..... 3,120 lin. ft.	4.75	4.75	5.00	4.75	4.75	5.00	6.00	4.75	3.75	5,000.00	4.75
Newel posts ..... 161 " "	7.90	7.90	8.00	7.90	7.90	8.00	8.00	7.90	5.00	8.00	7.90
Rail box, etc. ..... 2,640 " "	4.75	4.20	4.50	4.75	4.75	5.00	6.00	4.75	3.00	5.00	4.75
Lampposts ..... 54 each	37.00	37.00	40.00	27.00	37.00	37.00	62.00	37.00	27.00	37.00	40.00
Flagpoles ..... 8 "	2,000.00	1,800.00	1,800.00	2,100.00	2,000.00	2,000.00	2,200.00	2,100.00	12.50	2,600.00	2,000.00
Coat of arms ..... 2 "	2,000.00	1,800.00	1,800.00	2,625.00	2,000.00	2,000.00	2,750.00	2,625.00	2,000.00	2,600.00	2,000.00
Name plate tablets ..... 2 "	900.00	8.50	12.00	865.00	900.00	900.00	1,000.00	865.00	500.00	1,000.00	1,000.00
Other ornamental work	6,315.00	6,300.00	8,000.00	6,315.00	6,315.00	6,315.00	8,000.00	6,315.00	5,000.00	6,000.00	6,500.00
Staining	1,550.00	1,500.00	2,200.00	15,050.00	1,550.00	1,550.00	1,800.00	1,550.00	1,200.00	1,600.00	1,550.00
Asphalt roadway ..... 8,970 sq. ft.	3.00	1.75	2.00	1.75	2.50	2.50	1.85	1.50	2.00	2.35	2.00
" sidewalks ..... 4,260 " "	2.00	2.50	2.00	2.50	2.50	2.50	2.50	2.50	2.00	2.35	3.00
Bluestone curb ..... 1,300 lin. ft.	1.25	.35	1.25	1.50	1.00	1.50	1.60	.60	.75	1.25	1.00
C. i. catchbasins and gratings.. 2,000 lbs.	21.00	20.00	.03	20.00	.03	20.00	20.00	20.00	10.00	.05	25.00
Gratings, for draw span.... 2,000 "	8.00	8.00	.03	8.00	.03	8.00	8.00	8.00	8.00	.05	15.00
Pipe, 6 spans ..... 300 lin. ft.	.50	1.00	.75	.40	.87	1.50	.40	2.00	.75	3.00	1.00
Pipe, 8 spans ..... 300 " "	.75	1.00	1.00	.50	1.15	2.00	.50	2.10	1.00	5.00	1.25
Brick sewer, 5 ft. ..... 600 " "	12.00	8.00	17.00	11.00	13.67	10.00	12.00	21.30	12.00	25.00	15.00
26 × 36-in. ..... 250 " "	8.00	6.00	10.00	6.50	7.51	5.00	6.50	9.50	10.00	5.00	12.00
5 ft. ..... 350 " "	12.00	7.00	20.00	15.00	13.19	8.00	12.00	13.00	12.00	25.00	10.00
Manholes and covers ..... 13 each	50.00	50.00	50.00	40.00	5.00	20.00	12.00	50.00	10.00	50.00	20.00
Catchbasins ..... 4 "	25.00	125.00	125.00	110.00	35.00	150.00	150.00	130.00	150.00	150.00	200.00
Total	$876,013	$1,187,890	$907,063	$951,786	$896,681	$951,487	$1,024,171	$1,001,900	$866,547	$1,126,180	$1,146,504

The contract was awarded to O'Brien, Sheehan & McHale. Seven of the bidders submitted bids at so much a 1,000 ft. for lumber, when they should have bid so much a ft. The totals given are figured exactly as they bid, but could not be considered on account of the informality.

INDUSTRIAL NOTES.

THE FLUSH TANK CO., Aurora, Ill., has been consolidated with the Aurora Iron Works, of the same city, and the business will continue under the former name. The new company has a capital stock of $50,000, fully paid in; will pay the indebtedness, collect all outstanding accounts, and continue to carry on the business formerly conducted by the old companies without interruption.

THE AMERICAN AXE & TOOL CO., Pittsburg, Pa., has been formed by 80% of the edge tool manufacturers of the United States, according to report, which adds that a new plant will be erected near Charlerol, on the Monongahela River, four miles south of Pittsburg. The capital is said to be $2,000,000, and over 2,000 men will be employed.

THE MURRAY IRON WORKS CO., Burlington, Ia., has begun suit against Messrs. R. G. Dun & Co. for $20,000 damages for falsely reporting, Dec. 23, 1897, on its daily notification sheet that the former company had executed a trust deed of $50,000 for the benefit of certain preferred creditors. The company has no debts and the deed was executed to secure a small number of bonds issued for the purpose of making certain additions and improvements to its plant.

HENRY R. WORTHINGTON, New York, is about to enlarge his present storage capacity for castings for standard sizes of pumps. The company now carries in storage from two to three months' supply of all standard castings of 6-inch stroke pumps and smaller sizes. It is now proposed to extend this system to pumps of much larger sizes. The company is making enlargements which will enable it to increase its output over 30%, especially in pumps of 10-inch stroke.

AN OIL WELL CORDAGE COMBINATION is reported to have been formed at Pittsburg, Pa., by the Edwin H. Fitler Co., Philadelphia, the Waterbury Rope Co., the Standard Rope & Twine Co., the American Mfg. Co., New York, and the Columbian Rope Co., Auburn, N. Y., with several other smaller companies. The object of the association is to advance the price of cordage in the oil well supply trade, and about 100 dealers and manufacturers are said to be interested. Mr. E. A. Weart, of the Jarecki Mfg. Co., Pittsburg, has been elected temporary President, and Mr. W. E. Frick, of Frick, Lindsay & Co., of the same city, Secretary.

THE GATES IRON WORKS, Chicago, advises our representative that the year just closing has been a very successful one, especially in their crusher department. Mr. Geo. C. Marsh, Manager of this department, says that over 60 of their new jaw crushers have been sold within a year, and among other recent shipments are: Fifteen No. 3; several of the largest sizes, Nos. 6, 7½ and 8 (the latter weighing 90,000 lbs.) and being 12 ft. high, with a 11-ft. opening at the top. Contracts have just been closed for more than doubling the size of the shops of this company. The addition will be 80 × 386 ft. and will be an all steel and brick building, equipped with the most modern machinery. The contract for the steel work has been awarded to the Pittsburg Bridge Co., through its Western Manager, Mr. D. W. Church, C. E.

THE FLINT & WALLING MFG. CO., Kendallville, Ind., is making extensive improvements to its plant, with a view to improving the facilities for carrying on an extensive business in building domestic and railway water supply systems, and has recently enlarged its galvanizing plant and contemplates putting in a complete electric light plant in the near future, and has also installed a new boiler. The works of this company cover an area of eight acres, and consist of an iron foundry, 180 × 80 ft.; brass foundry, 60 × 80 ft.; machine shop, 3 stories high, 50 × 200 ft.; blacksmith shop, tool room, etc. The shops are all equipped with modern machinery, and the punches are large enough to do any class of structural work required in connection with the business.

DAVIS & EGAN MACHINE TOOL CO., Cincinnati, O.—Mr. Chas. Davis, the President of this company, has recently returned from an extended trip to Europe, devoted to the study of prospects for the introduction there of American made machine tools. He reports prospects especially bright in Germany and Russia, where American tools and American workmen are in demand. France is more conservative in this matter, though the Government is a good buyer, and business in Austria is temporarily set back by the recent political agitations. His company exported machine tools in the last year to the value of over $500,000, mostly to Germany.

THE CROUCH CONSTRUCTION CO., 514-15 First National Bank Bldg., Chicago, Ill., has a contract for constructing 143 miles of railway and another for building 11 miles of drainage ditch in Ricks Township, Christian Co., Ill. The ditch will drain 3,220 acres and require the excavation of 100,000 yds. of material. Mr. C. D. Crouch, Pres., advises our representative that the company is just finishing up its season's work, and that among other contracts completed in 1897 is the construction of 27 miles of railway for the Milwaukee, Benton Harbor & Columbus Ry., including over 3,000 ft. of high trestles.

THE AMERICAN STEEL & WIRE CO., Chicago, Ill., was incorporated this week, according to press reports, to consolidate the leading wire, wire rail and steel rod companies in the country. The proposed combination of these interests has been referred to several times recently in these columns. It is now announced that all preliminary arrangements have been satisfactorily completed, and the price to be paid for each plant agreed upon. The capital stock is $87,000,000, of which $30,000,00 is preferred. The directors are: Messrs. John W. Gates, Isaac L. Elwood and Elbert H. Gary and two men to be named by J. P. Morgan & Co.

Contract Work Should Always be Advertised in a Paper Read by Contractors.

Nearly Every Prominent Contractor and Manufacturer of Contractors' Supplies in North America Reads Engineering News.

CO
PERSONAL ..
Obituary ...
ENGINEERING
Coming Tech
NEW PUBLICA
Trade Publica
CONSTRUCTIO
Condensed Li
Railways ...
Street and El
Electric Ligh
Bridges ....
Buildings ...
Water-Works
Irrigation ..
Sewerage ..
Garbage Disp
Streets and
Manufacturin
Gas Plants
Miscellaneou
Contract Pr
INDUSTRIAL

Mr. Benjam
gineer of Bro

Col. August
Board of Wat

Mr. Leroy
the Northport
N. Y.

Mr. G. L.
moved his o
O. to the Ci

Mr. Kenne
R. R. Co. of
self to his p

Mr. C. B.
R., with he
pointed Supe

Mr. John H
General Man
headquarters

Mr. Edgar
York Centra
York city,
R. R.

Mr. James
sioner of W
York city,
of Bridges

Mr. Willi
missioner o
York city,
of Bridges

Capt. W.
years has
Boston, Ma
United Sta
Thomas.

Mr. Carl
mous "Mon
engineers,
spection of
country.

Mr. Geo
missioner o
the Borou
J, Byrne,
borough.

Hon. H.
W. F. Va
Manager
of the Mc
gomery, A

Mr. Hen
gaged by
make spe
locks. Hi
at Detroit

Mr. M.
tive Powe
Ill., has
connected
at 706 Ph

Mr. J.
the New
at Boston
England
Pa. Mr.
Frazer

Mr. Sa
Manchest
Mr. Lor
mouth C
course i
graduate
over, N.

Mr. A
has bee
cinnati,
the new
which